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FUNCTIONAL DIFFERENTIATION
AMONG SMALL TOWNS
IN THE EDMONTON AREA

BY

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A THESIS
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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled Functional Differentiation Among Small Towns in the Edmonton Area submitted by Charles Lorne Archie Hutton in partial fulfilment of the requirements for the degree of Master of Arts.

ABSTRACT

This thesis involves a study of the functional structure of eight small urban centres situated near Edmonton in a region where strong centralizing influences from the city have modifying effects on many town functions. The method of selecting certain towns for study involved defining a region where Edmonton's influences are strongest; this was accomplished by examining the city's role as an employment centre.

It was found that the city's influence in this capacity extends approximately twenty miles in each direction from the city centre; comparatively few workers commute from beyond this distance. The area within twenty miles of the city centre was thus selected as the "study region" and the urban centres situated therein, with the exception of Edmonton, became the study towns.

Due to limitations in published statistics and in previously established systems of urban classification, the study towns were classified by function according to a series of ratios based on floor space and population. The basic hypothesis was that urban functions are reflected in the various types of premises occupied and that the use of ratios of floor space and population would establish a useful technique for urban differentiation. Residential floor space was omitted since there is little or no variation among towns in the average number of persons per house. The urban functions

themselves were classified according to categories used by the Dominion Bureau of Statistics.

It was found that the study towns are of four distinct types: residential satellite of Edmonton, oil field service centre, manufacturing town, and trading town. Each type has a specific dominant function that is reflected in the floor space ratios.

The residential satellites, Saint Albert and Sherwood Park, have low ratios in all functional categories since their populations are large in relation to their non-residential facilities; most of the working population is employed in Edmonton. Devon, the oil town, has high ratios in the functional categories associated with the oil and gas industry, while in Fort Saskatchewan, the highest ratio occurs in the manufacturing category. The four trading towns, Leduc, Morinville, Spruce Grove and Stony Plain, are primarily agricultural service centres and their highest ratios appear in the service industries and retail trade categories.

There are numerous economic ties however between each town and the City of Edmonton; no town is completely self-sufficient since strong centralizing tendencies operate throughout the entire regional urban hierarchy. The functions most affected appear to be retail trade and the supply of business services, though various other functions such as construction and transportation are also extensively influenced.

The basic approach followed, in the use of floor space ratios to differentiate urban centres, was one of testing the method's usefulness; it was found to be well adapted at least to the towns examined in this thesis, and appears to be suitable for wider application.

ACKNOWLEDGEMENTS

In the lack of published information for a study of this type, most of the data used in this paper were gathered from scattered sources. Of particular importance was the material collected by mailed questionnaire; the co-operation and support of the 300 persons who responded was most gratefully received. The author also wishes to acknowledge the generous contributions made by various public officials in the study towns: particularly by Mr. L. Abrams of the offices of the County of Strathcona, Edmonton, and the secretary treasurers of the other centres: Mr. B. D. Stover, Devon; Mr. J. A. Clark, Fort Saskatchewan; Mr. W. A. Bell, Leduc; Mr. L. U. Brochu, Morinville; Mr. S. L. Billings, Saint Albert; Mr. T. C. Gamble, Spruce Grove, and Mr. E. Pink, Stony Plain.

I also feel indebted to Mr. G. Audley whose assistance in obtaining large scale maps for field work is hereby gratefully acknowledged. In addition, the Edmonton Regional Planning Commission was most helpful in supplying small scale diagrams used as bases for most of the land use maps appearing in this thesis; the frequent assistance rendered by several members of the Commission was more than welcome.

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For the patient review and constructive criticism of preliminary drafts and the final manuscript, I am particularly indebted to my thesis supervisor, Dr. P. J. Smith.

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INTRODUCTION

The primary purpose of this study was to analyse the functional structure of towns situated in an area where Edmonton's regional influences are strongest.[1] This functional structure is frequently much affected by proximity to large cities, and the study thus included an examination of the form and degree of Edmonton's effects on the towns concerned. Other major aspects of functional structure studied are those which are expressed in regional interaction between towns and their surrounding areas.

A. PROCESS OF CENTRALIZATION

Urban settlements are characteristically surrounded by regions which, in many respects, rely on the settlements for the performance of various service functions such as the supply of retail goods, personal services, education and entertainment. The settlements in turn are dependent on their surrounding regions particularly for customers and for sources of goods and materials. Such a mutual exchange of goods and services characterizes an urban centred region and illustrates the co-functioning of town and country.[2] The interrelationships are not

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[1] The term "regional influences" refers to those economic and social effects which accompany Edmonton's performance of any service function for areas or populations beyond the city's corporate boundaries.

[2] The word "town" is used here in the wide sense of "urban settlement".

static ones; rather they exist in a state of continual flux, changing, for example, with trends in population and technology. These functions and trends involve not only the town-country interrelations but extend to interactions among various towns, involving an entire hierarchy of urban centres from the largest city to the smallest hamlet.

Two major factors have been responsible for many of the changes in relations between town and country and between members of the urban hierarchy. Firstly, improved transportation has greatly extended the distances over which urban services are accessible to surrounding populations. Thus certain urban centres, favored by their position in the transportation network, have become influential over wider rural areas. Secondly, there has been a continuing shift of population from rural areas into urban centres, particularly into the larger cities, so that rural populations remain static or even decline slightly while urban populations expand.

As the major urban centres have extended dominating influences over wider rural areas, so also the larger centres influence many of the smaller towns contained within the rural areas. This continuing process of centralization has greatly increased the number of services performed by towns and has resulted in a decreased need for numerous small service centres spaced at close intervals. As noted, the result is growth of certain towns which are best situated to perform as central places.[3]

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[3] Central place theory describes as "central" those places which perform services for, and act as the centres of,

To some extent, the process is self-stimulating. For example, purchasers tend to shop where variety and selection of goods are greatest and competition keenest, and thus they encourage additional variety and competition. Other things being equal, businesses and industries tend to locate where markets, transportation and supplies of goods are most accessible, requirements which are most often satisfied by larger centres where economies of scale and concentration can be realized.

In the continuing process of centralization, the larger central places are thus seen to be exerting increasing influences on their surrounding regions and their neighboring towns. Such a process has significant repercussions on smaller towns, particularly in an urban centred region such as Edmonton's where the central city, serving areas as extensive as the entire province of Alberta in many respects, has undergone rapid expansion.

B. URBAN FUNCTIONS

The functions performed by urban centres are primarily of social and economic nature. Social functions are performed by establishments such as theatres, auditoriums, schools, hospitals, and government agencies, while the economic functions are of three primary types and are expressed in the towns' roles as distribution centres, market places and centres of employment.[4]

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surrounding regions. The more functions performed in the place, and the larger the dominated region, the greater is the degree of centrality.

[4] A. E. Smailes, The Geography of Towns, London, 1961, p. 137.

Many cities perform all these functions, but the regions served by individual functions vary greatly in area with the nature of the function and the nature of the region. Several different functions may serve as many regions, each of which differs distinctly in area and situation. Others may serve varying segments of the population in a single composite service area. In Edmonton's case, most of the social functions, aside from the governmental ones, serve only limited segments of the adjacent population. Many, however, serve wider regions. For example, as an educational and medical centre, Edmonton's regional influence extends over all of Alberta and into the western Arctic.[5] Many of the city's political and administrative functions serve the whole of the province and also extend north into the western Arctic.

In the economic sphere, with respect to marketing and distribution, Edmonton serves a trading area extending over northern Alberta, parts of northern British Columbia, and the Yukon and Northwest Territories.[6] As an employment centre, however, Edmonton has a more localized influence, the strength of which is affected primarily through the time taken by people in commuting to work. In an inquiry constituting an intregal part of this thesis, it is indicated that Edmonton's main influences on employment are concentrated within an area defined by a twenty

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[5] For example, Edmonton's Charles Camsell Hospital treats many Eskimo patients, particularly for T.B.

[6] Edmonton, City Planning Dept., Draft General Plan for the City of Edmonton, Edmonton, 1963, Part 1, Map No. 9, p.6ff.

mile radius from the city centre.[7]

C. OBJECTIVE OF THE STUDY AND METHODS OF APPROACH

(i) Selection of Study Towns

Since the towns to be studied are situated in an area where Edmonton's regional influences are strongest, it was necessary to adopt some measure of the influences and to define an area of their primary effectiveness. The determination of such an area presents certain problems, because such influences are extensive and varied. It may be accepted as a basic premise, however, that they are generally strongest in areas nearest their source. The area of greatest influence may then be considered a nodal region and the principal problem is to define its boundaries. This may be accomplished in several ways, as through the investigation of flows of goods or money, but since intensive research into regional definitions was not the purpose of the study, a more easily workable, yet reliable, method was required. The method selected for this study is based on Edmonton's function as an employment centre since, in this capacity, the city's influence is rather evenly distributed in all directions due to a well developed transportation network. Further, the function is restricted in its areal influence primarily by travelling time, and, in theory at least, the influence diminishes smoothly with increasing distance from the city. In short, with the use of employment information, a

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[7] See Figure 2.

specific area of influence, referred to as the study region,[8] was delimited and the towns situated therein became the objects of the study.

The study region is defined specifically on the basis of Edmonton's influence as an employment centre, although the city's influences in general are the chief means of regional interaction and interrelation. The region also has a certain uniformity of physical characteristics, settlement and economic activity which, however, extend considerably beyond the regional boundaries defined here. The term "Edmonton area" differs from "study region" in that it is somewhat larger than the region and its areal extent is less closely defined. In general, it is the area bounded by a single line enclosing all study towns' primary trade areas (See Figure 7).

(ii) Statistical Classification of Towns

Employment statistics are not published in Canada for towns having populations of less than 10,000 persons, and few data of any kind are available for unincorporated urban centres; consequently it was necessary to make as much use as possible of locally available information. As a starting point, it was hypothesized that urban characteristics are reflected in the various types of premises occupied by industrial, commercial and public functions. Since information on the sizes of buildings is readily available from Town Offices, it was possible to

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[8] See Figure 2. The outer limits of the study region lie twenty miles in each direction from the city centre.

compile data to indicate total amounts of floor space in various functional categories in each town. The classification of the towns was based on ratios, of floor space to population, calculated for each functional category. The categories themselves are those used by the Dominion Bureau of Statistics in its Standard Industrial Classification Manual.[9]

(iii) Regional Background

The study region's physical characteristics and historical development have greatly affected the growth and the functions of the study towns, particularly through agriculture and petroleum and natural gas exploitation; they were thus considered to warrant the detailed discussion covered in Chapter 2.

(iv) Analysis of Town Functions

Discussion of urban functions was first focused on the major functions in each town, consistent with their significance as indicated by the floor space ratios. Generally the activities most closely interrelated with each town's major function were discussed next, and the remaining activities last. Throughout the discussion the towns were compared and contrasted, function by function, with each other, and their interrelations with Edmonton were treated as a recurring theme.

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[9] Canada, Dominion Bureau of Statistics, Standard Industrial Classification Manual, Ottawa, 1960.

CHAPTER 1

METHODOLOGY

A. REGIONAL EMPLOYMENT AND SELECTION OF STUDY TOWNS

(i) Employment and Commuting in the Study Area

To obtain information on the extent of the area which Edmonton affects in its capacity as an employment centre, an inquiry was directed to 171 of the city's larger employers, (Figure 1), each of which was asked the number of its employees residing in any location outside the city. It was decided to concentrate the inquiry in the central business area, for two reasons. First, it was desired to minimize directional bias, and the city centre is little more accessible to workers from one direction than from another. Second, the city centre is an area of concentration of white collar workers which, as a group, tend to commute farther than other working groups.[1] Many of the city's larger employers, however, are located some miles from the city centre. Several of these were also selected for sampling, but an even distribution throughout the city was maintained. A group of large employers in the industrial area east of the city was handled separately

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[1]

Professional, managerial and sales workers -	about 8 miles
Clerical workers and craftsmen -	" 7 miles
Operatives and laborers -	" 6 miles
Service workers -	under 5 miles

B. Duncan, "Factors in Work-Residence Separation, Wage and Salary Workers", American Sociological Review, Vol. 21, Chicago, 1956, p. 48-56.

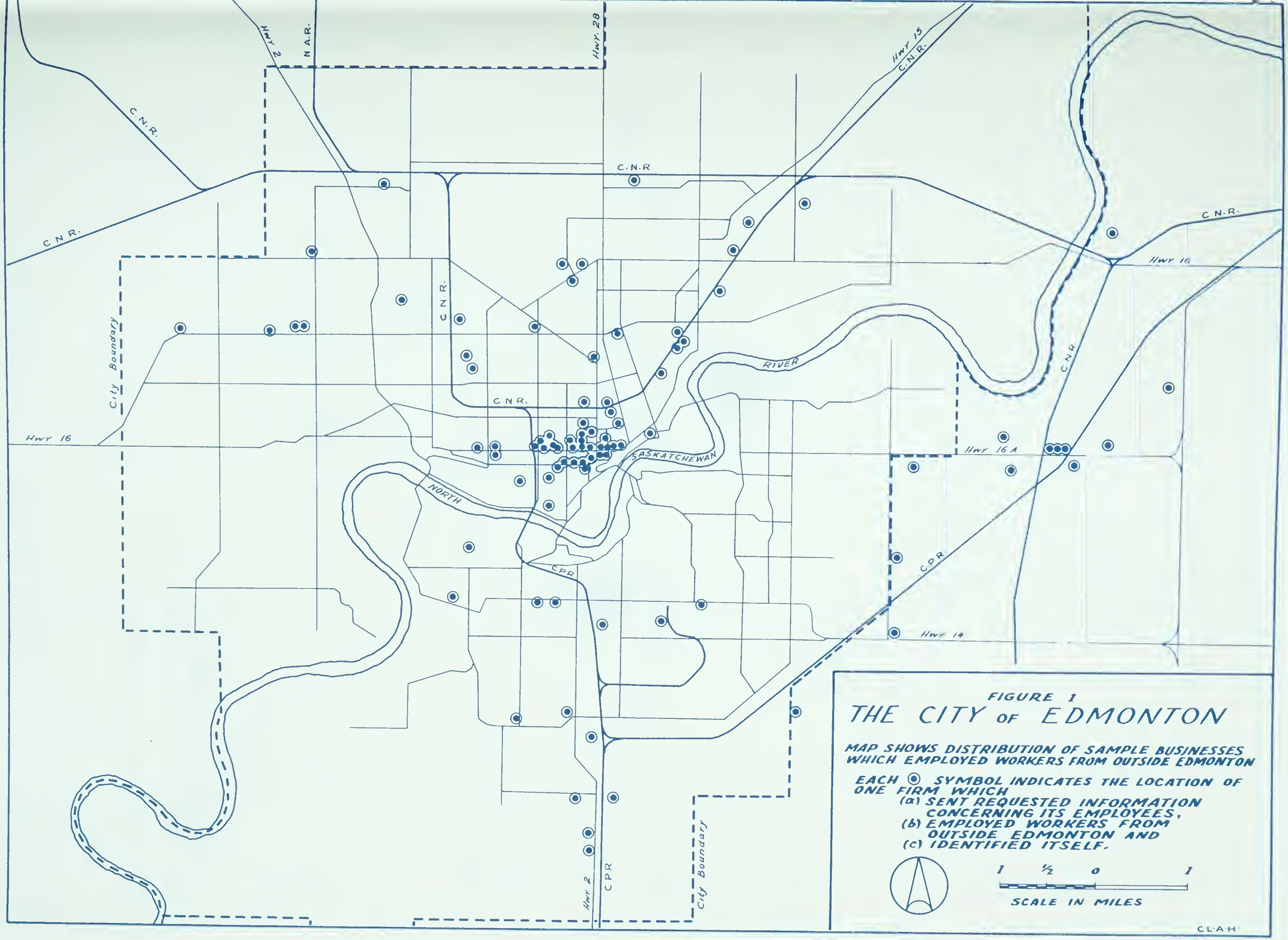

FIGURE 1

THE CITY OF EDMONTON

MAP SHOWS DISTRIBUTION OF SAMPLE BUSINESSES WHICH EMPLOYED WORKERS FROM OUTSIDE EDMONTON

EACH ◉ SYMBOL INDICATES THE LOCATION OF ONE FIRM WHICH
(a) SENT REQUESTED INFORMATION CONCERNING ITS EMPLOYEES,
(b) EMPLOYED WORKERS FROM OUTSIDE EDMONTON AND
(c) IDENTIFIED ITSELF.

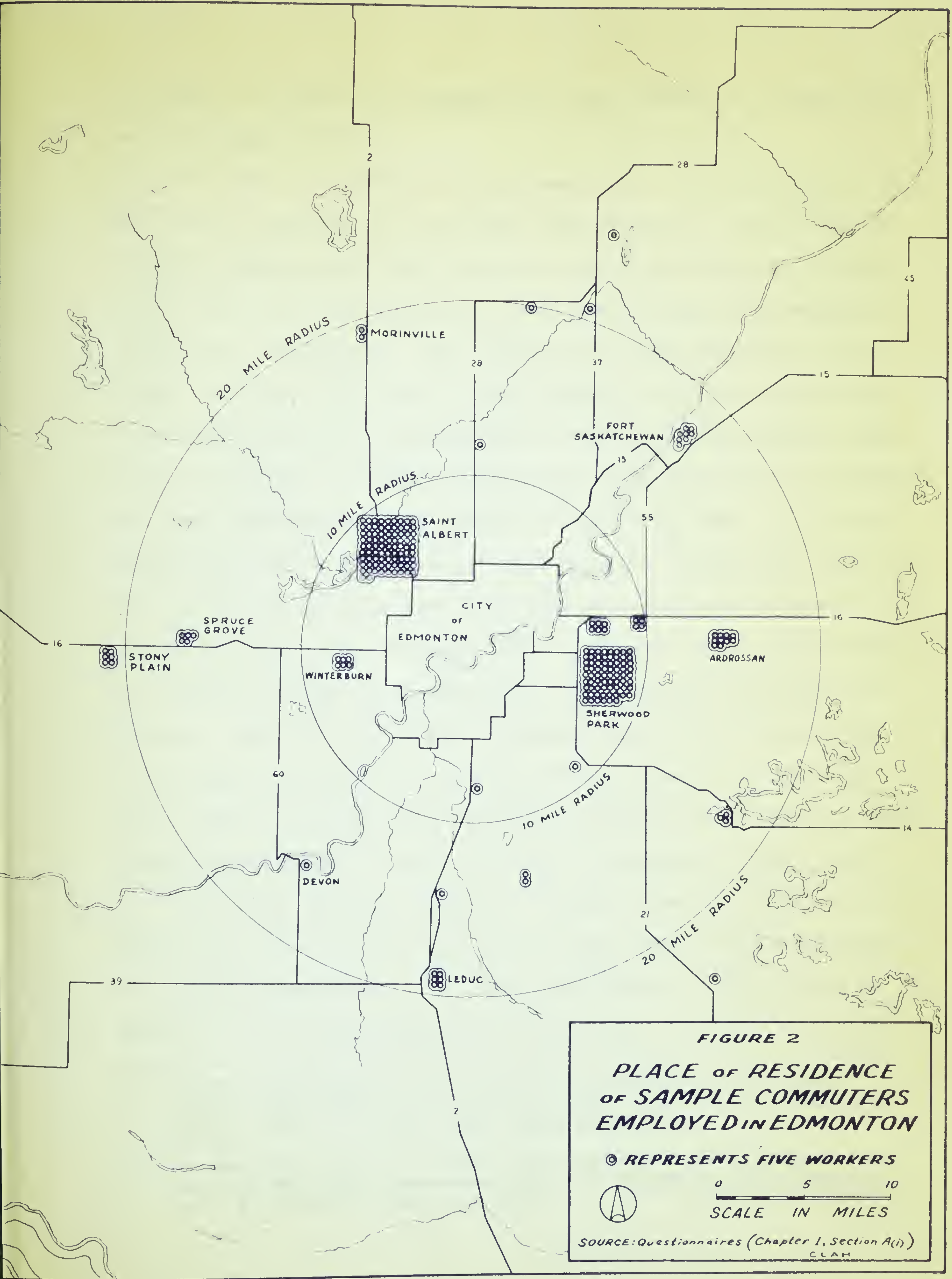

FIGURE 2

PLACE OF RESIDENCE OF SAMPLE COMMUTERS EMPLOYED IN EDMONTON

◎ REPRESENTS FIVE WORKERS

SOURCE: Questionnaires (Chapter 1, Section A(i))

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in order to check the anticipated large number of workers from near-by Sherwood Park.

In all, 171 employers were contacted, of which 123, or 72 per cent, supplied the requested information.[2] Ninety-six of the 123 responding firms employed workers who resided outside the city, while the remaining twenty-seven employed Edmonton residents exclusively. The ninety-six firms reported a combined total of 1,249 out-of-town workers; the distribution of their residences is illustrated in Figure 2. The maximum distance travelled by these sample workers to employment in Edmonton was approximately 100 miles, though less than 1 per cent were involved in a journey of such length. Ninety per cent of the commuting workers came from within a distance of twenty miles from the city centre, while 75 per cent came from within ten miles, a distance equivalent to five miles from the city limits. Most of the people commuting from this distance or less were residents of two towns, Saint Albert and Sherwood Park, both of which are residential satellites of Edmonton with large proportions of their populations employed in the city.

The area having a radius of twenty miles from the city centre was taken to be the area of the city's major influence on regional employment. It also corresponds largely with an area of fluid milk production surrounding the city.[3] In gen-

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[2] Including inquiries at various branches of individual firms, the number of questionnaires sent out was 188, of which 140, or 74 per cent, were returned.

[3] F. Marlyn, and H. N. Lash, "The Edmonton District. A city Centred Multiple Resource Region", Resources for Tomorrow, Vol. 1, Ottawa, 1961, p. 461.

TABLE I

Sample Commuters - Distribution of Residence

Place of Origin	Number of Commuters	Percentage of Total
Devon	3	0.2
Fort Saskatchewan	45	3.6
Leduc	29	2.3
Morinville	11	0.9
Saint Albert	416	33.3
Sherwood Park	352	28.2
Spruce Grove	25	2.0
Stony Plain	30	2.4
Subtotal	911	72.9
Others	338	27.1
Total	1249	100.0

Source: Questionnaire conducted in February, 1964.

eral, it is a region which experiences the most direct influences from its central city. In addition to the two towns mentioned above, it contains six others - Devon, Fort Saskatchewan, Leduc, Morinville, Spruce Grove, and Stony Plain. In comparison with Saint Albert and Sherwood Park, all six are substantially less affected by Edmonton as an employment centre; yet the effect exists and is significant if only to serve as an indication of an effective commuting radius. It is accompanied, however, by other effects which widely influence the towns' marketing, distribution and service functions;

these occur largely through direct competition between town and city businessmen.[4]

(ii) Commuting to City Proper

The sample of 1,249 people employed in Edmonton and residing elsewhere included 1,006 employed in the city proper and 243 employed in the industrial area immediately east of the city. Most of the former group came from Saint Albert and Sherwood Park; Saint Albert supplied 40.4 per cent and Sher-

TABLE 2

Place of Residence of Sample Commuters Employed in the City of Edmonton Proper

Town of Residence	Number of Commuters	Percentage of Total
Devon	3	0.3
Fort Saskatchewan	32	3.2
Leduc	21	2.1
Morinville	7	0.7
Saint Albert	406	40.4
Sherwood Park	216	21.5
Spruce Grove	25	2.5
Stony Plain	27	2.7
Subtotal	737	73.3
Others	269	26.7
Total	1006	100.0

Source: Questionnaire conducted in February 1964

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[4] See Section C. of this chapter, for a summary of competitive influences.

wood Park, 21.5 per cent. The six other towns supplied a combined portion of 11.5 per cent, making a total of 73.3 per cent for all eight study towns (Table 2). The remainder of 26.7 per cent was scattered throughout the study region and beyond in villages, farms, small holdings, and country residences.

(iii) Commuting to Eastern Industrial Area

Immediately east of Edmonton an extensive industrial area has been developed during the past fifteen years, and although it lies outside the city's political limits, it functions as part of the city. The inquiry into the distribution of residences of the employees in this area was handled separately in

TABLE 3

Place of Residence of Sample Commuters Employed in Edmonton's Eastern Industrial Area.

Town of Residence	Number of Commuters	Percentage of Total
Devon	0	0
Fort Saskatchewan	13	5.3
Leduc	8	3.3
Morinville	4	1.6
Saint Albert	10	4.1
Sherwood Park	136	56.0
Spruce Grove	0	0
Stony Plain	3	1.2
Subtotal	174	71.6
Others	69	28.4
Total	243	100.0

Source: Questionnaire conducted in February 1964

order to check the expected large proportion of workers from near-by Sherwood Park. The overall sample of 1,249 commuting workers included 243 employed in the eastern industrial area. Sherwood Park residents accounted for 136, or 56 per cent of these people, while the seven remaining towns contributed altogether only 15.6 per cent (Table 3).

As indicated in questionnaire returns, the proportion of Edmonton's labor force residing outside the city is relatively small. Twenty-seven sample employers in the city proper were found to employ a total of 5,144 workers of whom 217, or 4.2 per cent, resided outside the city. In the eastern industrial area, seven employers with 846 workers indicated that 10 per cent of their work force resided outside the city. The people involved in these small percentages, however, comprise large portions of the employed populations of the two nearest towns. In 1961, 80 per cent and 46 per cent respectively of the labor forces of Sherwood Park and Saint Albert were employed in Greater Edmonton;[5] by 1964 Saint Albert's portion had also risen to 80 per cent.[6]

Considerably smaller proportions of the labor forces of the six other towns are employed in the city. As indicated in Figure 3, Edmonton's influence as an employment centre dimin-

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[5] Source: Edmonton Regional Planning Commission, from local census. The term "Greater Edmonton" here refers to the area enclosed by the present corporate boundaries of the city plus the industrialized area east of the city.

[6] Estimate obtained from the office of the Secretary Treasurer, Town of Saint Albert, May 1964.

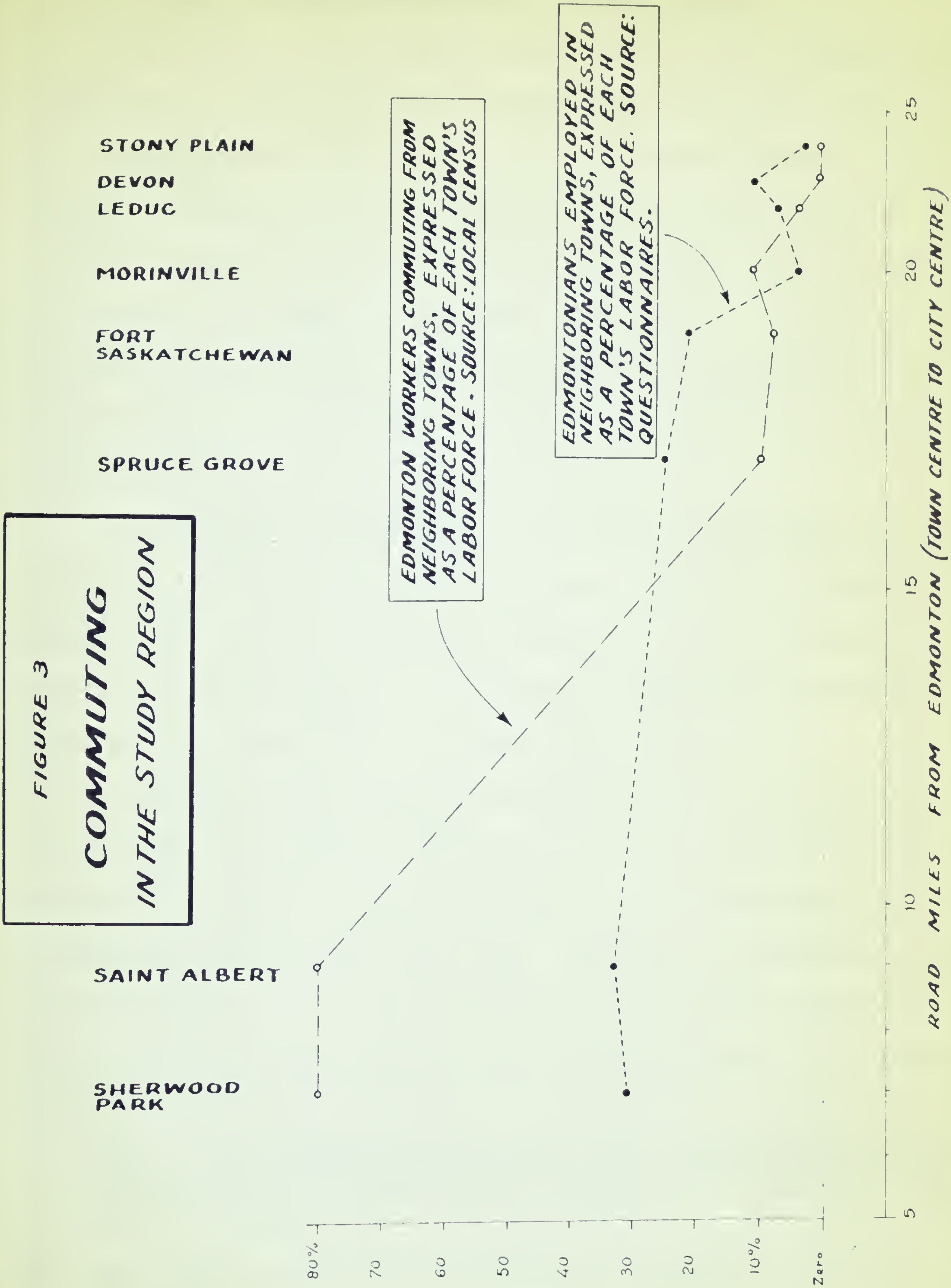

FIGURE 3

COMMUTING

IN THE STUDY REGION

ishes sharply beyond Saint Albert and Sherwood Park.

(iv) Commuting From Edmonton to Study Towns

Discussion to this point has involved only those workers commuting to the city from surrounding areas, but this is not the only movement of workers in the Edmonton region. Some Edmonton residents are employed in neighboring towns so that the city functions not only as an employment centre, but also as a source of labor. Although considered a relatively minor factor by many of the larger employers in the region, the availability of a labor pool in Edmonton is contributory in the attraction of industrial development.[7]

To obtain an estimate of the number of Edmonton residents employed in the study towns, an inquiry to this effect was included in a business questionnaire sent to all industries and retailing businesses in the towns.[8] Employment information gathered is summarized in Table 4 and Figure 4.

The high proportions of Edmontonians in the work forces of Saint Albert, Sherwood Park, and Spruce Grove are best explained in terms of easy accessibility from Edmonton and the resultant short travelling time. Branches of Edmonton firms established in the towns constitute a contributing factor. Devon and Fort Saskatchewan are largely industrial and local

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7. C. A. Hames, Operations at the Fort Saskatchewan Refinery, Sherritt Gordon Mines Limited, a paper presented at the Prospector's and Developer's Convention, Edmonton, February 25, 1957, p. 3.

8. The questionnaire is reviewed in Section C. of this chapter.

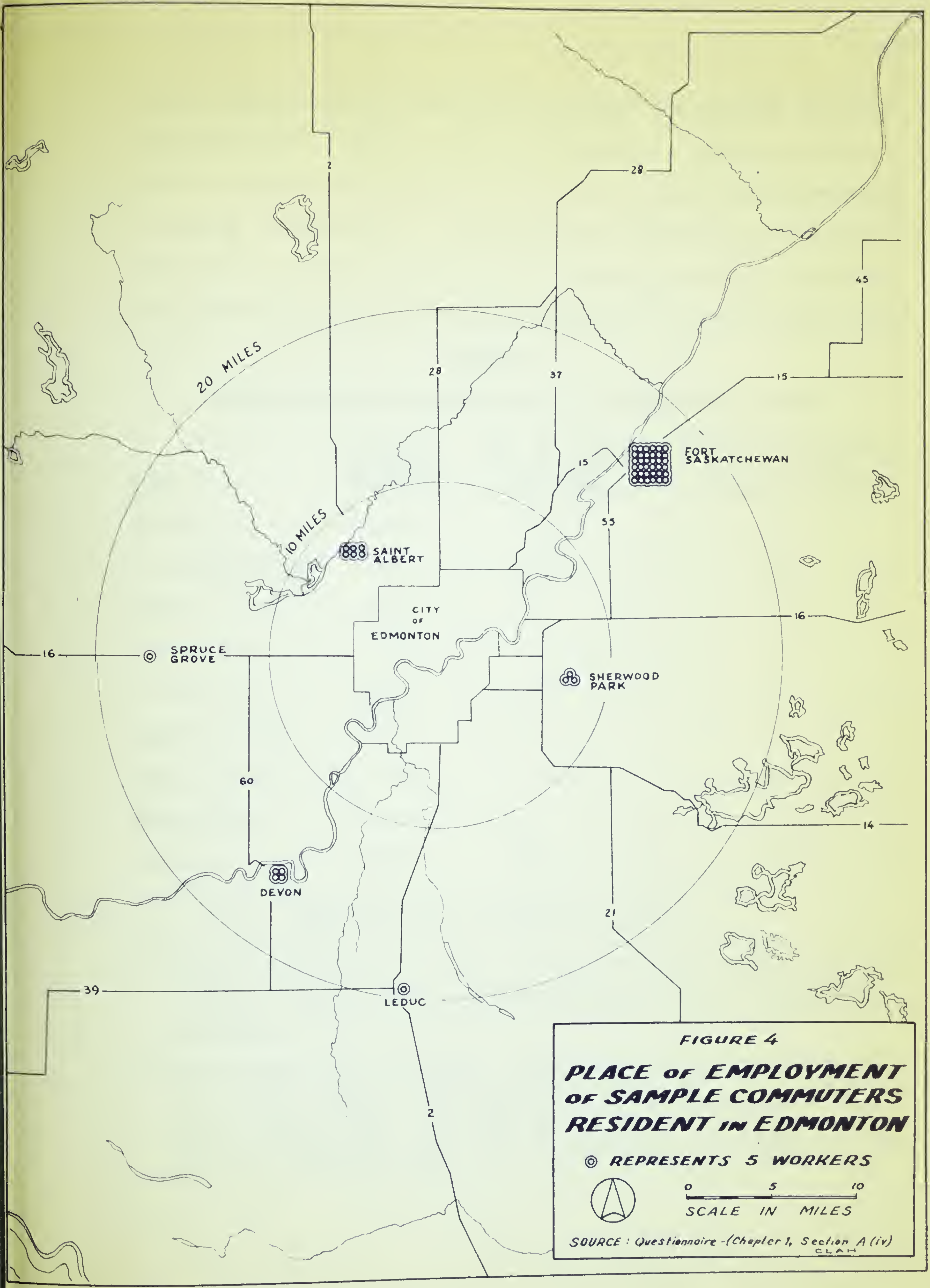

FIGURE 4

PLACE OF EMPLOYMENT OF SAMPLE COMMUTERS RESIDENT IN EDMONTON

SOURCE: Questionnaire -(Chapter 1, Section A (iv)

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establishments employ many people having specialized training and experience. Some of these employees are subject to frequent transfers from branch to branch of large firms and prefer to reside in Edmonton.[9] Probably more significant is the fact that due to a lack of local labor reserves, many of the industrial employees were drawn from Edmonton;[10] some of these con-

TABLE 4

Edmonton Residents Employed in Neighboring Towns

Town	No. of Reported Workers	No. of Edmonton Residents Reported	Edmonton Residents As a Percentage of Reported Workers
Devon	156	18	11
Ft. Saskatchewan	885	181	20
Leduc	116	4	3
Morinville	52	2	4
St. Albert	131	59	45
Sherwood Park	46	15	33
Spruce Grove	39	8	21
Stony Plain	94	5	5
Total	1519	292	19.2

Source: Questionnaire conducted in March 1964
See Section C. of this chapter.

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[9] There are probably several reasons for the preference, but a significant factor, frequently mentioned in connection with it, is that property in Edmonton is more immediately saleable.

[10] Pers.Comm. Mr. T. Deacon, Manager, Imperial Gas Conservation Plant, Devon, Alberta, March 1964; Mr. R. T. Richardson, Works Manager, Dow Chemical, Fort Saskatchewan, Alberta, March 1964. See also P. J. Smith, "Fort Saskatchewan: An Industrial Satellite of Edmonton", _Plan Canada_, Vol. 3, No. 1, 1962, p. 11.

tinue to reside in the city for some time before moving. In Leduc, Morinville and Stony Plain, Edmonton residents account for no more than 5 per cent of the reported workers although all three towns are situated no more distant from Edmonton than is Devon. All three are primarily agricultural service centres and offer little attraction to workers from elsewhere (See Figure 3, and Table 4).

(v) Summary

In summary, the great majority of commuters employed in Edmonton reside in the two nearest towns, the satellite communities of Saint Albert and Sherwood Park, and a high proportion of the workers from the latter town are employed in Edmonton's eastern industrial area.

The proportion of the work force employed in the city proper though residing elsewhere is relatively small - approximately 4 per cent - while the proportion of the work force in the eastern industrial area is somewhat larger - approximately 10 per cent. The people involved, however, account for approximately 80 per cent of the working population in the residential satellites but much smaller proportions in the other towns (Figure 3).

With respect to the employment of Edmonton residents outside the city, the two nearest towns have the highest proportion of Edmontonians in their labor forces. The two most industrialized towns, Devon and Fort Saskatchewan, also employ relatively large proportions of Edmontonians due to their requirements for specialized personnel.

Edmonton's primary influence as an employment centre extends over an area which has a radius of approximately twenty miles from the centre of the city. This area was chosen as the study region and the eight towns - Devon, Fort Saskatchewan, Leduc, Morinville, Saint Albert, Sherwood Park, Spruce Grove, and Stony Plain - situated therein became the objects of this study. The towns have widely differing functions and reflect various kinds and degrees of influence from Edmonton. Both the functions and the influence are discussed in subsequent chapters.

B. FLOOR SPACE

(i) Classification Requirements

Several classifications of urban centres have been devised, most of which are based on employment structure, for which census data is readily available.[11] This method, however, is not particularly suited to satellite towns, such as Saint Albert and Sherwood Park, which function as sections of metropolitan cities, because the greater parts of their working populations are employed elsewhere in the metropolitan area. Since detailed statistics on the place of employment of workers residing in small towns are not available, another functional

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[11] See, for example, G. Alexandersson, The Industrial Structure of American Cities, London, 1956; C. D. Harris, "A Functional Classification of Cities in the United States", Geographical Review, Vol. 33, Jan. 1943, p.86-99; H. J. Nelson, "A Service Classification of American Cities", Economic Geography, Vol. 31, July 1955, p.189-210; and L. L. Pownall, "The Functions of New Zealand Towns", A.A.A.G., Vol. 43, 1954, p.332-350.

classification, directly including all urban functions, was required. A classification based on income, man-hours of labor or value of output would have been difficult to obtain as these statistics are not available for all urban functions.[12]

Inspection of physical facilities in the study towns reveals obvious variations in basic functional compositions. The supposition was made that the importance of urban functions is reflected to a significant degree in the size and number of the premises occupied. Accordingly, it was expected that floor space devoted to various categories of activity, such as retail sales, construction, administration and manufacturing, would reflect the functional characters of the towns. Floor space data for most buildings are readily available from town offices. The relative importance of the various town functions could then be indicated not only by total floor space occupied by each, but also by introducing a ratio of floor space to population. It was anticipated that the ratios would serve particularly well to distinguish towns which are residential satellites of Edmonton. These have not yet developed economic bases employing most of their residents; consequently they have comparatively little non-residential floor space and low ratios were anticipated in most functional categories. The

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12. Statistics on trade value are available from the Alberta Government, but in three categories only: retail, wholesale and service. As the method of reporting the data to the government is not uniform, there are wide variations from year to year. No statistics on a particular type of business are released unless there is a minimum of three firms of that type in a town.

ratios were expected to have significance also in towns which serve extensive trading areas and have developed facilities in excess of those required to serve only the towns themselves. In towns having other specialized functions such as mining, manufacturing, or transportation, the method's applicability was to be tested. The classification used to differentiate towns in this study is based on these variations in functions as they are reflected in various types of urban facilities.

(ii) Data Collection

Each property and building in a town is assessed for purposes of taxation; details are recorded by the assessor and kept on file in the towns' administrative offices. Most floor space data were obtained from these tax assessment files in which the dimensions of most buildings are listed. Certain buildings, however, are assessed on the basis of construction cost rather than absolute size, and floor space data for these were obtained elsewhere. Most of these data were collected from building plans in the possession of government agencies, building inspectors, building supervisors, and engineering and architectural firms. Of the few remaining buildings for which data were not available, some were carefully measured from large scale vertical air photos and the rest were double-paced, then checked with near-by known distances.

(iii) Classifications of Functions

The floor space data were classified according to function using a system adopted by the Dominion Bureau of Statis-

tics in its Standard Industrial Classification Manual, published in 1960.[13] Eleven categories are used in the manual:

Agriculture
Forestry
Fishing and Trapping
Mines, Quarries and Oil Wells
Manufacturing
Construction
Transportation, Communication and Other Utilities
Trade
Finance, Insurance and Real Estate
Community, Business and Personal Service Industries
Public Administration and Defence.

Only nine of the categories appeared in the study towns. No "Forestry" and no "Fishing and Trapping" facilities were found and little that could be classed as "Agricultural" was encountered. The last category was retained, however, as some industries closely associated with agriculture occur. A list of the establishments contained in each category and encountered in the study towns is presented in Appendix 1.

Only one deviation from the Dominion Bureau of Statistics classification was made; an oil company office building was re-

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[13] "The term 'industry' is used here in its broadest sense to include all economic activity from the primary industries such as agriculture and forestry, to those concerned with the rendering of services." Canada, Dominion Bureau of Statistics, Standard Industrial Classification Manual, Ottawa, 1960, p. 7.

moved from the "Manufacturing" category and placed in the "Mines, Quarries and Oil Wells" category, as it is primarily concerned with administration of the production phase of the oil business rather than with manufacturing.

In the collection of data for the classification, towns were considered as functional rather than political entities. If facilities clearly functioning as part of a town were situated outside the town's political boundaries they were included in the study. Data were collected for all types of floor space except residences and farmsteads. Residential floor space was excluded because there is little, if any, variation among the towns on the basis of per capita occupance of different types of housing. Farmstead floor space was excluded as it performs a rural function rather than an urban one, and since town boundaries are not related to the built-up area, the number of farms within a town's corporate limits does not always adequately reflect the town's agricultural function.

As indicated in Table 5, not every category is represented in each town, generally the smaller towns and the residential satellites have fewer functions than the other centres. The "Agricultural" category is a small one, due partly to the system of classification. Such agriculturally related establishments as dairies, poultry processors and feed and flour mills are all classed as manufacturing rather than agricultural industries, and grain elevators are included with other storage and warehousing industries under "Transportation,

TABLE 5

Floor Space in Study Towns - May 1964

(All floor space figures are in square feet)

Category		Devon	Ft. Sask.	Leduc	Morinville	Saint Albert	Sherwood Park	Spruce Grove	Stony Plain	Average
Agriculture	Floor Space	0	5622	2222	18916	0	0	0	2235	
	Proportion of Town Total	0	0.5%	0.5%	7.6%	0	0	0	0.6%	1.2%
Mines, etc.	Floor Space	62211	0	7393	0	3920	0	0	0	
	Proportion of Town Total	24.1%	0	1.6%	0	0.6%	0	0	0	3.3%
Manufacturing	Floor Space	3036	566884	13912	8400	4618	850	8110	9602	
	Proportion of Town Total	1.2%	51.3%	3.0%	3.8%	0.7%	0.4%	7.9%	2.4%	8.8%
Construction	Floor Space	7063	3936	4351	896	22294	0	1079	600	
	Proportion of Town Total	2.7%	0.4%	0.9%	0.4%	3.5%	0	1.0%	0.1%	1.1%
Transportation, etc.	Floor Space	13365	10106	19635	6343	15946	2760	3206	10272	
	Proportion of Town Total	[illegible]	5.2%	0.9%	4.2%	2.6%	2.5%	1.3%	3.1%	2.6%
Trade	Floor Space	34589	100968	114888	74788	77955	31380	45785	134642	
	Proportion of Town Total	13.4%	9.1%	24.8%	30.2%	12.2%	15.1%	44.6%	33.4%	22.9%
Finance, etc.	Floor Space	3816	7302	5323	2687	4770	1995	1446	3071	
	Proportion of Town Total	1.5%	0.7%	1.1%	1.1%	0.8%	1.0%	1.4%	0.7%	1.0%
Service Industries	Floor Space	125887	217205	270524	107319	486600	165246	40827	223686	
	Proportion of Town Total	48.8%	19.6%	58.4%	43.3%	76.1%	79.6%	39.7%	55.6%	52.6%
Administration	Floor Space	7701	193303	25277	27341	22959	5460	2341	18547	
	Proportion of Town Total	3.0%	17.5%	5.5%	11.0%	3.6%	2.6%	2.3%	4.6%	6.3%
Grand Total		257668	1105326	463525	247690	639062	207691	102794	402655	
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: See Chapter 1, Section B(ii).

Communication and Other Utilities". All floor space encountered in the "Mines, Quarries and Oil Wells" category is either directly involved in the oil and gas industry, or associated with it. The "Manufacturing" category is a diverse one and representative members of it appear in each town, though there are no large manufacturing enterprises except in Fort Saskatchewan. The "Construction" category is limited by its comparatively specialized nature and by the fact that much of its activity can be pursued outdoors. Inclusion of grain elevators under "Transportation, Communication and Other Utilities", created certain problems for the use of floor space, because due to great height and volume their significance is not readily reflected in their floor areas. They were thus segregated from the remaining data and used in supplementary form (See Table 6). The "Trade" category is a major function in each town. In all centres but Devon and Fort Saskatchewan, where other functions are dominant, it ranks second in size only to the extensive "Service Industries" category. Due to its specialized function the "Finance, Insurance and Real Estate" category is small in all towns, but it is relatively uniformly represented. The largest single category involves the "Community, Business and Personal Service Industries", consistent with the fact that most towns are basically service centres. On the average, approximately 12 per cent of the category's floor space is occupied by commercial service industries such as cafes, hotels, bowling alleys, and barber and

TABLE 6

Grain Elevator Capacity

Town	Capacity	Percentage of Total
Devon	0	0
Fort Saskatchewan	233,000 bu.	17.3
Leduc	243,000 bu.	18.1
Morinville	235,000 bu.	17.5
Saint Albert	72,000 bu.	5.4
Sherwood Park	0	0
Spruce Grove	196,000 bu.	14.6
Stony Plain	363,500 bu.	27.1
Total	1,342,500 bu.	100.0

beauty shops, while the balance consists of various public service establishments such as schools, churches, and hospitals, many of which require relatively large buildings. The "Public Administration and Defence" category includes facilities occupied and operated by all levels of government: federal, provincial, municipal, and local. Towns such as Fort Saskatchewan, Leduc, and Morinville have relatively high floor space totals in this category due to the presence of extensive facilities occupied by non-local governments.

The preceding nine categories of activity include all urban functions encountered in the eight study towns.

(iv) Classification of Study Towns

Floor space totals for each category do not themselves serve to differentiate the towns, however. This is accomplished by floor space to population ratios, calculated in square feet per 100 persons.

In Table 7 wide variations are indicated among towns in the ratios of non-residential floor space to populations, and various dominant town functions are pointed out. First, it is apparent that Saint Albert and Sherwood Park, with respective overall ratios of 7,446 and 4,300 square feet per 100 persons, have ratios much lower than those of the six other towns. The ratios are indicative of the towns' basically residential characters. A second point brought out by the table is that all eight towns have high ratios in the "Service Industries" category. In all towns but Spruce Grove it comprises the largest single functional category. Thus nearly all the towns are mainly service centres, so the category does not serve to differentiate among them. A third noticeable factor in the table is that in four towns - Leduc, Morinville, Spruce Grove, and Stony Plain - high ratios occur in the "Trade" category. In Spruce Grove "Trade" has the highest ratio, while in the three other towns it is exceeded only by the broad "Service Industries" category. All four towns are largely agricultural service centres and each has a well established trade area. Fourthly, the town of Fort Saskatchewan, though it also functions as an agricultural service centre, is dominated by manu-

TABLE 7

Floor Space Ratios

(Figures are in square feet per 100 persons)

	Devon	Ft. Sask.	Leduc	Morin-ville	Saint Albert	Sherwood Park	Spruce Grove	Stony Plain	Average
Population[14]	1423	3766	2846	1000	8583	4830	596	1466	
Agriculture	0	149	78	1892	0	0	0	153	284
Manufacturing	213	15053	489	940	54	18	1361	655	2348
Mines, etc.	4372	0	260	0	46	0	0	0	585
Construction	496	105	153	90	260	0	181	41	166
Transportation, etc.	939	268	690	634	186	57	538	701	502
Trade	2431	2681	4037	7479	908	650	7682	9184	4381
Finance, etc.	268	194	187	269	56	41	242	209	183
Service Ind.	8847	5768	9505	10732	5669	3421	6850	15258	8256
Administration	541	5133	888	2734	267	113	393	1265	1417
Total	18107	29350	16287	24770	7446	4300	17247	27466	18122

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14. Population figures for all towns except Morinville and Sherwood Park are based on May 1964 local censuses. The population given for Morinville is an estimate from the town office, and that given for Sherwood Park was obtained from Sherwood Properties Limited, a firm instrumental in the town's development: August, 1964.

facturing, as reflected in a high ratio in that category. A fifth significant point is brought out by Devon's high ratio in the "Mines, Quarries and Oil Wells" category which, although lower than the "Service Industries" ratio, best serves to indicate the town's basic function as an oil field service centre.

From the foregoing, the towns were grouped statistically into four distinct types. The first type, labelled "Residential Satellite Towns" is represented by Sherwood Park and Saint Albert. A second type, "Oil Towns", is represented by Devon, while a third, "Manufacturing Towns", is represented by Fort Saskatchewan. A fourth type, "Trading Towns", includes the remaining centres: Leduc, Morinville, Spruce Grove, and Stony Plain. Each town or group of towns has a single characteristic function upon which the towns' existence and operation are largely dependent.

(v) Use of Floor Space and Floor Space Ratios

It should be stressed that comparisons of town functions based on this technique can be made only between corresponding functional categories of different towns and not between different functional categories in the same town. Floor space does not necessarily reflect directly the entire significance of a town function. For example, a large proportion of activity in the construction industry occurs outdoors thereby minimizing the floor space involved. The floor space directly occupied by the industry may therefore not reflect the entire significance of the industry, and consequently it is not di-

rectly comparable with the retail trade, for example, which is conducted almost entirely within buildings. As another example: the revenue per square foot of floor space generated by a small office occupied by a doctor or lawyer may exceed by several times the income produced per square foot in a billiard hall, and one small doctor's office may be more significant to a town than several billiard halls. The central purpose of the method, however, is not the comparison of doctors' offices with billiard halls, or of the construction industry with the retail trade, but the comparison of each with its counterpart in other towns. Since the purpose is the comparison and functional classification of towns, the method's inapplicability to direct comparison of individual town functions need not seriously impair its use.

During recent years, in the Edmonton region, floor space in even the smallest towns has been continually changing. In many cases there has been rebuilding and expansion of previously existing structures. In other cases, there has also been a marked influx of new types of development which have significantly altered the functional operations of the towns. The trends are continuing and floor space statistics thus go out of date rather rapidly, particularly in the towns nearest Edmonton where change has been most pronounced. Other types of data are similarly affected by change, however, and must be revised periodically.

If floor space ratios are to be applied more widely than

they have been in this study, it may be argued that they will be basically altered with shifts in technology, and therefore may not produce valid comparisons of towns in different periods of time or in different stages of technological development. That is, floor space may alter not only in the absolute sense but may also alter, more basically, in its relationship with population: more or less floor space being required to perform a given function. At the same time, more or fewer people may be required to perform the same function, with no necessity for maintenance of a static relationship between populations and floor space. However, the same general arguments can be applied with equal validity to other basic measures of urban activity such as income, employment, sales volume or production per man hour. Each has changed through time with advances in technological development, and the present trend is toward an increasing rate of change. In any case - with many functions such as those performed by old people's homes, hospitals, churches, schools or community halls - income, man-hours of labor or value of output are often practically indeterminable; they are thus not easily included in the same classification as manufacturing or retailing, for example, where each criterion has an easily determined value.

If floor space ratios are applied throughout a large enough area, regional variations in the ratios, due to climatic influences, will probably be encountered. In warmer climates, many industrial facilities, for example, may not require en-

closure within buildings. Even in more localized areas, such as individual cities, there are variations between industries with respect to their enclosed and non-enclosed facilities; oil refineries for example, have a large proportion of their installations situated out-of-doors while other industries operate entirely within buildings. This remains a potential disadvantage which, however, was not encountered within the scope of the present study.

It is difficult to make detailed comparisons between towns on the level of individual businesses, using floor space, because of the frequent intermingling of various uses on a single premises. For example, automobile sales and repairs are often combined in a single establishment with farm machinery sales and repairs, while hardware, building supplies, and lumber form another common combination. As the data were classified in categories broad enough to include all aspects of any business operation encountered however (including storage space), a more detailed break-down was not required.

Some difficulty was encountered with certain facilities where floor space or construction cost is not the basis of tax assessment. Instead, as is the case with grain elevators and oil storage tanks, assessment is based on storage capacity, by the bushel or gallon; neither measure is readily convertible to floor space information. This raises a question as to whether the data would be more useful if obtained and utilized in terms of cubic content of buildings rather than square

feet of floor area. The data would then take into account wide variations in the sizes of certain single-floor buildings, such as churches, and could directly include any type of enclosed structure.[15] For most buildings the information could have been obtained from assessment files but for many it was not available. It was considered that the additional complications involved in obtaining the information from its scattered sources would not yield a correspondingly improved functional analysis. Further, most buildings in the towns are of relatively small size and have basically the same relation of floor space to volume. Consequently floor space was expected to serve as a reasonable common denominator for reducing various facilities to comparable status.

No distinction was made with respect to intensity of use of the floor space. The space in use for twenty-four hours a day was given the same 'weight' as that used only eight hours a day or less. Thus, for example, the extensive industrial installations at Fort Saskatchewan involve more man-hours of labor per square foot per day than retail facilities do, and floor space used for active retailing is more intensively used than storage space. It was considered that the introduction of an additional factor based on intensity of use would lead

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15. Storage facilities such as those used in lumber yards often include semi-enclosed structures with three sides and no floor. For the purposes of this study, only completely enclosed structures are included, even though they may be mere shelters surrounding facilities such as certain industrial equipment which may not be enclosed under other climatic conditions.

only to unnecessary complications.

Conclusions. The technique has the advantage, at least in a small study such as this that most of the data required are readily available. In addition, it is equally applicable to functions of both commercial and non-commercial natures. It takes into direct account facilities such as churches, schools, old people's homes, clubs, public entertainment facilities, and others which are not revenue producing in a direct sense and are not inherently comparable with other facilities in terms of sales volume, value of output or man hours of labor. The method is also inherently objective in approach; no necessity was encountered for the subjective 'weighting' of data as entailed in other procedures.[16] On the limited scale undertaken in this study, it was intended to illustrate its suitability for the purpose of differentiating space: more precisely, to test it as a means of classifying small urban centres. If workable, it would have a certain inherent usefulness in a geographic inquiry. The scope of this study places certain limitations on the effectiveness of the trial however; a further test of the applicability of the method could involve its comparison with other methods of functional differentiation, preferably in an area where town functions are not as clearly dominant as they are in these study towns. If a broader application were attempted, a useful approach would involve compari-

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[16] See, for example, C. D. Harris, "A Functional Classification of Cities in the United States", op. cit.

sons of the ratios of individual towns with regional, or even national averages.

C. BUSINESS QUESTIONNAIRE

Economic interrelations between Edmonton and the study towns are numerous and may occur in various forms. For example, Edmonton residents may own or be employed by small-town businesses; other firms may be branches of larger ones based in the city. Local firms may make use of various Edmonton professional services such as those provided by financial companies, lawyers, or insurance and real estate agents. In these fields and others Edmonton may influence the neighboring towns through direct business competition, particularly since many townspeople make shopping trips to the city. Certain other businesses may be oriented to city markets rather than local ones. The city may be the main source of the wholesale supplies required by local firms, and these supplies may in turn be delivered by Edmonton transporting firms.

In order to obtain information on these and other interrelations between town and city, a questionnaire was mailed to each commercial enterprise in the study towns.[17] In all, 316 firms were contacted, of which 117, or 37 per cent, responded.

Not all questions were applicable to all businesses and not every responding firm replied to each question. Since re-

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[17] A copy of the questionnaire and a summary of the returns appear in Appendix 2.

TABLE 8

Questionnaire Returns From Study Towns

Town	No. of Questionnaires Sent	No. of Questionnaires Returned	Percentage of Questionnaires Returned
Devon	25	8	32.0
Ft. Saskatchewan	56	24	42.9
Leduc	69	24	34.8
Morinville	33	14	42.4
Saint Albert	44	13	29.5
Sherwood Park	12	6	50.0
Spruce Grove	24	10	41.7
Stony Plain	53	18	34.0
Total	316	117	37.0

tailing firms were the most numerous commercial enterprises, most replies were from retailers, however they included useful information about other business activities. Returns varied substantially among the eight towns, as indicated in Table 8; nevertheless it was possible to draw general conclusions about many town functions and Edmonton's influence upon them.

Employment data gathered from the questionnaires has been summarized in section A of this chapter (see Table 2). Other information is summarized in the following series of tables.

As indicated in Table 9, over one-fifth of the responding businesses have offices or branches in Edmonton, through which numerous commercial arrangements, such as the supply of

TABLE 9

Local Firms With Branches or Head Offices in Edmonton

	Devon	Ft. Sask.	Leduc	Morin-ville	Saint Albert	Sherwood Park	Spruce Grove	Stony Plain	Total
No. of Replying Firms	8	24	24	14	13	6	10	18	117
No. of Firms with head office and branches in Edmonton	1	2	3	2	4	1		1	14
No. of Firms with head office in Edmonton		1	1						2
No. with branches in Edmonton	2	1	2	1	3		2	3	14

TABLE 10

Firms Using Edmonton Business Services

	Devon	Ft. Sask.	Leduc	Morin-ville	Saint Albert	Sherwood Park	Spruce Grove	Stony Plain	Total
No. of Replying Firms	6	21	24	14	12	5	10	17	109
No. of Firms using Edmonton accountants	2	17	15	10	8	3	4	14	83
No. using Edmonton legal services	5	11	8	7	10	4	5	11	61
No. using Edmonton banking services	2	4	6	1	4	1	5	2	25
No. using other financial services	2	5	6	0	1	1	5	3	23
Insurance	0	9	7	7	6	3	2	6	40
Real Estate	1	2	0	0	3	1	1	0	8
Other services, e.g. Consultants, Brokers	1	1	3	3	3	0	2	2	15

TABLE 11

Business Competition

	Devon	Ft. Sask.	Leduc	Morin-ville	Saint Albert	Sherwood Park	Spruce Grove	Stony Plain	Total
No. of Replying Firms (all types included)	4	20	24	14	12	6	10	18	108
No. of firms with majority of customers shopping in Edmonton	1	8	5	4	6	3	4	5	36
No. of firms with minority of customers shopping in Edmonton	3	11	17	8	6	3	5	12	65
Total	4	19	22	12	12	6	9	17	101

goods and business services, are handled. Most of them are branches of nationally established or Western Canadian firms: banks, supermarket chains and oil, grain and lumber companies.

As shown in Table 10, extensive use is made of Edmonton's professional business services even though some of the same services are available in several of the study towns. Most of the responding firms make use of Edmonton accounting and legal services although only Morinville, Sherwood Park and Stony Plain are without an accountant, while only Devon, Sherwood Park, Saint Albert and Spruce Grove are without a resident lawyer. Local financial services and insurance and real estate agencies are more numerous, and although the Edmonton facilities are also widely used, it is to a lesser extent.

Almost every firm replying to the questionnaire reported noticeable competition from Edmonton. In general terms the competitive influences are most strongly felt in the residential satellites and are least noticeable in towns more distant from the city. Since most of the businesses receiving (and replying to) the questionnaire are engaged in the retail trade the information in Table 11 refers primarily to retail competition.

Most responding firms reported that a high proportion of their wholesale goods are purchased from Edmonton suppliers. The exceptions to this are large manufacturing firms, such as those in Fort Saskatchewan, a few furniture, clothing, and machinery dealers who obtain some of their requirements

TABLE 12

Wholesale Supplies

		Devon	Ft. Sask.	Leduc	Morin-ville	St.Al-bert	Sher-wood Park	Spruce Grove	Stony Plain	Total	Aver-age
Pur-chase of Sup-plies	No. replies from firms requiring wholesale supplies	7	23	20	9	10	5	7	15	96	
	No. firms obtaining wholesale supplies from Edmonton	6	21	20	9	10	5	7	15	93	
	[18] Wholesale goods pur-chased in Edmonton - ex-pressed as the average of proportions reported by individual firms	69%	69%	75%	83%	82%	66%	86%	82%		78%
Deliv-ery of Sup-plies	No. of responding firms	7	20	20	9	10	4	7	15	92	
	No. firms to which Edmon-ton supplies delivered by city truckers	1	10	13	3	10	4	4	6	51	
	[19] Average proportion of Edmonton supplies de-livered by city truckers	11%	23%	31%	17%	63%	88%	40%	20%		37%

18, 19. These figures represent only the average, for each town, of the reported proportions of wholesale supplies bought in Edmonton by individual firms; they are not intended to represent the proportion, which Edmonton goods comprise, of the total wholesale supplies used in a town.

directly from eastern suppliers, and two feed mills and a lumber yard for which supplies are obtained from rural sources. One businessman, part owner of a wholesale dealership in Calgary, reported obtaining supplies from that city.

Significant amounts of the Edmonton wholesale supplies are reportedly delivered to each town by city truckers. The highest average proportions are reported by businesses in the residential satellites where city truckers deliver the majority of the Edmonton supplies. The other towns more distant from the city have more active trucking industries, and more goods are reported delivered by locally based firms.

Conclusions. Although questionnaire returns varied widely among the eight towns, it was possible to draw various general conclusions from the accumulated data. Most of the questionnaire recipients (and hence, most of the respondents) were retailing firms; they supplied useful information about other activities, however, notably business services and transportation. Attention was drawn to the fact that extensive use is made of Edmonton business services and that competition from the city is an important economic fact of life to be considered by small-town businessmen. It was also pointed out that Edmonton is the major source of wholesale supplies, and that many of these supplies are delivered by trucking firms based in the city. In short, as indicated in the questionnaire data, the economic interrelations between Edmonton and the study towns are both numerous and strong.

CHAPTER 2

REGIONAL PHYSICAL CHARACTERISTICS AND HISTORICAL DEVELOPMENT

A. PHYSICAL CHARACTERISTICS

The study towns are situated in a region approximately sixty miles south east of the geographic centre of Alberta and about the same distance from the northern and western edges of continuous settlement. The region lies in the most densely populated section of the province and incorporates the most northerly metropolitan area in Canada. The climate is markedly continental with extremes of temperature occurring in both summer and winter. Average summer temperatures range from 55°F to 60°F while mean winter temperatures range between 10°F and 20°F. Average annual precipitation is fifteen to eighteen inches with most occurring as effective rainfall during the growing season, the average length of which is 175 days; the average frost free period is an extremely variable 100 days between late May and early September. The average annual water deficit for the growing season is about five inches, though widely differing water storage capacities of various soils are more effective in determining deficit than is climate. There is little climatic differentiation within the region although an increased risk of frost and a slight precipitation increase may be noted toward the east and west margins of the Edmonton area in rough, morainic topography where soils are also poorer

and population is more sparsely distributed.

The study area is underlain by Cretaceous and Tertiary sediments, dipping gently westward, over which the pre-glacial relief has been much moderated by a mantle of glacial till. Depth of the mantle varies from less than ten feet in many places to over eighty feet in morainic areas and drift-filled valleys. Further topographic modification resulted from lacustrine and deltaic deposition in pro-glacial lakes, notably pro-glacial Lake Edmonton which in its various stages covered approximately half of the area. Topography is thus of generally low relief and there are few barriers to settlement or transportation.

The one major barrier is the North Saskatchewan River which has incised a valley from 50 to 250 feet deep and from one-half to two miles wide across the area from south west to north east. The valley is generally wider and shallower to the east of Edmonton where it follows a pre-glacial valley or topographic low. It has a marked effect on the shape and extent of economic service areas of some of the region's smaller urban centres. Since ground water supplies in the region are inadequate to meet population expansion in all of Edmonton's neighboring towns,[1] the North Saskatchewan has become the source of supply for towns as far as twenty miles from the river, through extensions of the city's water lines.

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[1] F. Marlyn and H. N. Lash, "The Edmonton District, A City Centred Multiple Resource Region", Resources for Tomorrow, Vol. 1, Ottawa, 1961, p. 458.

There are numerous sloughs and poorly drained depressions throughout the region, most of them occurring on the irregular topography of the moraine areas and their margins. Several shallow lakes occur, some of which are stable enough in water level to support resort development. Certain small-town businesses cater to the resulting recreational demand although this is met primarily in Edmonton where most of the demand originates.

Soils in the area vary from deep and fertile chernozems to thin leached podzolic soils with irregular occurrences of alkaline solonetzic soils where bedrock lies near the surface and parent materials are saline. The black chernozems, the most productive soils in the area, generally predominate and "... industrious settlers have made...this one of the best mixed farming regions in Western Canada".[2] Topography in this soil zone varies from level to gently rolling and is well drained. Mixed farming is the dominant form of agricultural activity and the proportion of unoccupied land is very small.

A zone of grey-black transitional soils, developed under heavier vegetation and lower evaporation rates than the black soils, exhibits more varied topography, and drainage is not as well developed. Limited leaching of the surface layers has removed some plant nutrients resulting in lower fertility. The main agricultural activity is mixed farming but greater emphasis is placed on livestock due to an increased propor-

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2. D. F. Putnam, ed., Canadian Regions, Toronto, 1957, p.341.

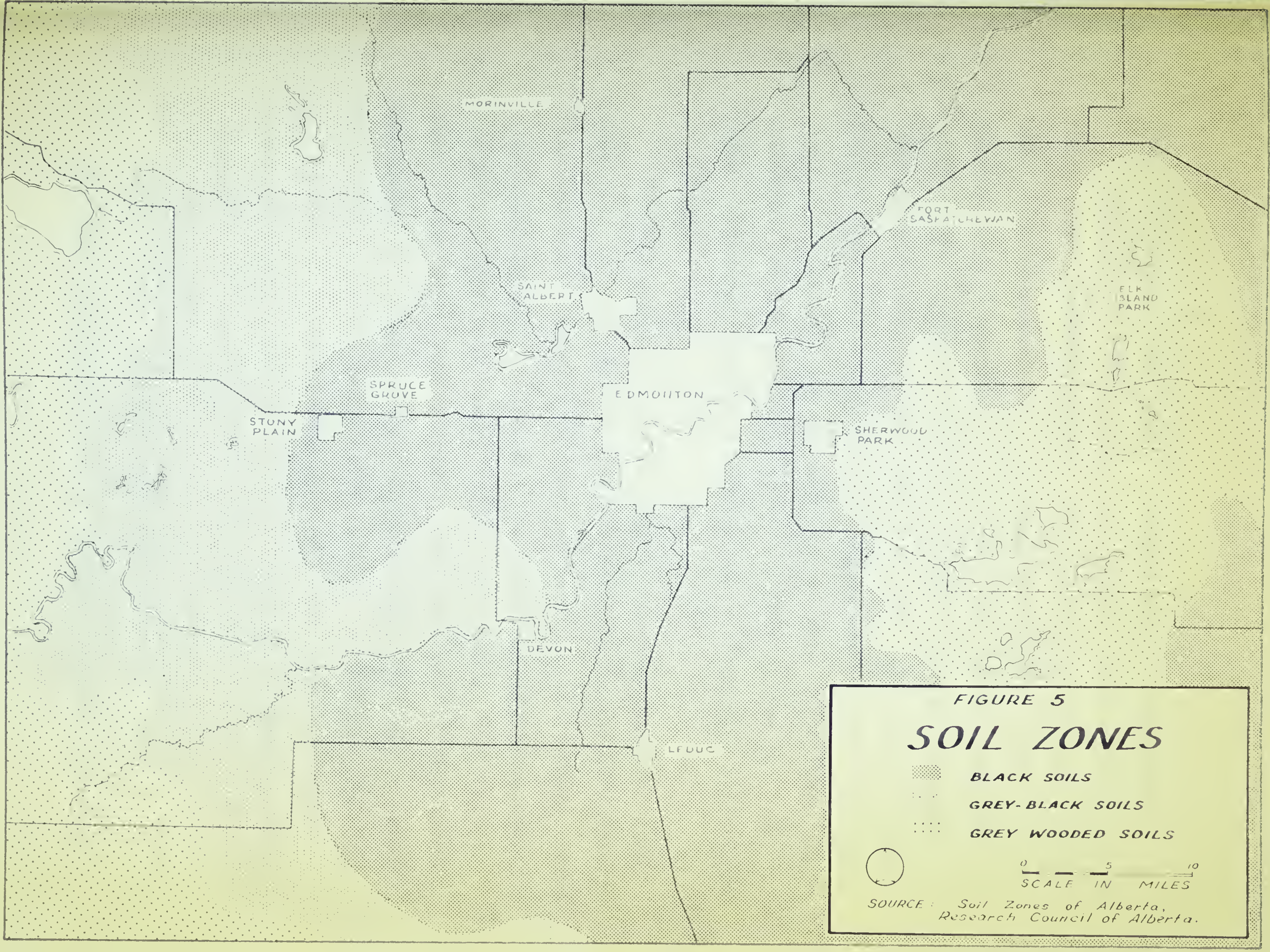

FIGURE 5

SOIL ZONES

SOURCE: Soil Zones of Alberta, Research Council of Alberta.

tion of marginal land which is better suited to pasture.

The podzolic (or grey-wooded) soils, least fertile of the three types, developed under mixed evergreen-deciduous forest vegetation primarily in the rougher topography toward the eastern and western margins of the area. The uneven topography results in the frequent occurrence of shallow lakes, sloughs, and other poorly drained areas. Much of this land has not been cleared and remains uncultivated, while much of what has been cleared is marginal and is used for pasture. Farmsteads are spaced at greater intervals than in either of the two other zones as greater areas are required for an adequate agricultural income.

Mineral resources are extensive and varied; the area is underlain by large salt deposits discovered during oil exploration and local deposits of clay and marl are used widely in the manufacture of portland cement and other building products. The most significant mineral resources, however, are fossil fuels. Extensive sub-bituminous coal deposits of the Cretaceous Edmonton formation are frequently exposed along the sides of the North Saskatchewan River valley. At various times up to the 1950 s they had supported over 190 registered coal mines of widely differing sizes in the City of Edmonton alone.[3] Although coal reserves in the area are large,[4] they have not

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[3] W. C. Wonders, "River Valley City - Edmonton on the North Saskatchewan", Canadian Geographer, No. 14, 1959, p. 8.

[4] Estimated at 943 million tons recoverable reserves for the area administered by the Edmonton Regional Planning

been exploited to their full potential due to limited markets, and even these have largely disappeared due to recent predominance of petroleum and natural gas production. Their future holds promise, however, as demand for thermal-electric power generation based on coal resources is expected to increase with rising costs of natural gas. A thermal power station using on-site coal deposits has already been established at Lake Wabamun, thirty-six miles west of Edmonton.

Formations of Devonian age underlying the Edmonton area, and other near-by districts, hold one of the major North American petroleum reserves,[5] and Edmonton is connected by pipe line to over eighty per cent of the oil reserves in Alberta.[6] Although most of the oil is exported as crude, via pipe line to the Pacific Coast and Great Lakes areas, oil processing and petro-chemical industries have become the region's second manufacturing enterprise after food processing in terms of value produced.[7]

The region is crossed by a radiating network of railways and highways contributing greatly to Edmonton's highly centralized marketing and distribution functions. The city's central position in a rich agricultural area and its strategic location

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Commission. Government of the Province of Alberta, Alberta's Economic Prospects. Edmonton, 1955, p. 97.

[5] Putnam, op.cit., p. 407.

[6] Ibid., p. 8.

[7] Alberta, Department of Industry and Development, Graphs of Growth, Edmonton, 1961, p. 16.

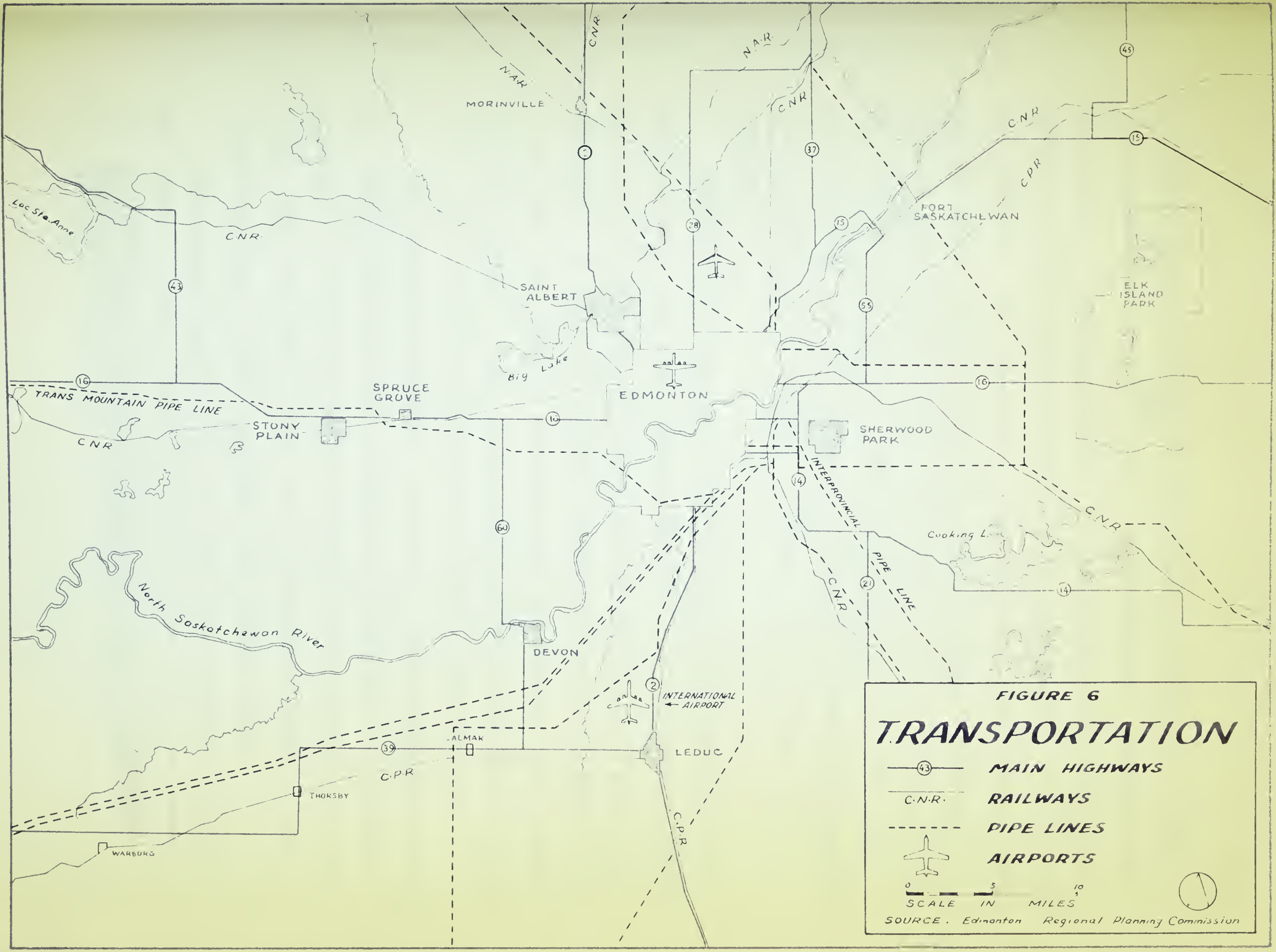

FIGURE 6

TRANSPORTATION

SOURCE. Edmonton Regional Planning Commission

on routes used for northern development has given it a good growth potential and lent great significance to transportation facilities. The first railway to reach Edmonton arrived from Calgary in 1891 and now forms part of the Canadian Pacific Railway network. Two transcontinental railways, the Canadian Northern and Grand Trunk Pacific, were built through Edmonton in 1905 and 1911 respectively; both are now part of the Canadian National Railway system. Other rail lines linking the region directly with all settled parts of Alberta include the Northern Alberta Railways extending to McMurray and the Peace River country.

Highways and motor traffic eventually displaced the railways as main movers of people and goods in the Edmonton region,[8] but by that time the settlement pattern had become firmly established. As the main highway network evolved, it closely followed many rail routes, since the same towns were being served by both systems. Other routes followed road allowances provided by the rectangular grid survey system of the prairies.

Air transportation has long been of great significance in the region and three major airports now operate. The newest, a large international airport opened in 1963, is located three miles north of Leduc and has had significant effects on the town since many airport employees now reside there.

The study region is also served by an extensive network

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[8] See Edmonton District Planning Commission, An Economic Survey for the Edmonton Metropolitan Area. Edmonton, 1958, p. 19 and 19ff.

of oil and gas pipe lines. The first, built to supply Edmonton with natural gas, was laid in 1923 from Viking, ninety miles south east of Edmonton. The remainder of the network was built after the 1947 discovery of oil near Leduc and connects Edmonton with the province's four largest producing oil fields: Redwater, Pembina, Swan Hills, and Leduc-Woodbend. Two major oil exporting pipe lines, the Interprovincial and the Trans-Mountain have their originating termini in the region.

In summary, the region's physical resource base has encouraged a successful agricultural industry which in turn has helped the rural area to become one of the most thickly populated in Alberta. The development of other physical resources, notably oil and gas, has diversified and expanded the regional economy and greatly assisted in making Edmonton one of Alberta's two major metropolitan centres. Regional development has also greatly affected several of the study towns; this is reviewed more fully in the following historical section.

B. HISTORICAL DEVELOPMENT

The earliest settlement in the region by people of European origin occurred near what is now Fort Saskatchewan as early as 1794 when the North West Company established a fur trading post. By 1795 the rival Hudson's Bay Company had constructed Fort Edmonton near-by. Occupance of the area was not continuous, however, as the forts were soon abandoned with depletion of local fur resources, and were moved to the site of present-day Edmonton. Although by 1838 there were about forty

families living around Fort Edmonton there was little sedentary settlement in the region prior to the establishment of a religious mission for the Metis in Saint Albert in 1861. The mission was established by Father Lacombe after he decided to move a mission from Lac Ste. Anne, thirty miles west of Saint Albert, and relocate it closer to Fort Edmonton for easier agricultural development and access to supplies.[9] The site for the new mission was chosen by the early Fathers for its lovely view on a hill on the north side of the wide smooth Sturgeon valley.[10]

The new mission experienced steady growth. In the late 1870 s new groups of settlers arrived to open farms; in 1884 the townsite was surveyed. By 1885 the town's commercial nucleus was firmly established, boasting, among other facilities, an hotel, a flour mill, and a telephone. Metis people continued to be the most numerous. By 1890 the town had gained a population of about 1,000 persons; 860 of these were Metis, while 120 were of French origin and twenty were of English origin. The town was incorporated in 1902 when the white population was nearing 500 persons.

By the time Saint Albert was founded, Edmonton's population had reached 300, but intensive settlement to develop the agricultural potential of the region awaited the construction of the railways. The completion of the Calgary and Edmonton railway in July of 1891 began a heavy influx of settlers who

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[9] Emile Tardif, O.M.I., St. Albert, Edmonton, 1961, p.37,39.

[10] Ibid., p. 10.

spread out over most of the region. Through the 1890's large numbers of immigrants arrived, largely from Central and Eastern Europe, Scandinavia, the United States and Eastern Canada.

In the Fort Saskatchewan area, limited agricultural settlement had occurred as early as 1872 when two French-Canadian brothers settled in the North Saskatchewan River valley immediately opposite the present site of the town of Fort Saskatchewan. They initiated the area's river lot survey system, similar to that used in Saint Albert in 1884. In 1874 the North West Mounted Police constructed a fort and in expectation of railway construction the area experienced an influx of settlers. By 1891 Fort Saskatchewan's population was not much smaller than Edmonton's, but after Edmonton became the northern terminus of the Calgary and Edmonton railway, Fort Saskatchewan's development virtually ceased while Edmonton's was accelerated.

Leduc, formerly named Telford Place after an early homesteader, was a stopping point on the Calgary-Edmonton trail before the railway was built, but the town's specific site was determined by a survey conducted by the Calgary and Edmonton Railway Company. The area experienced a heavy influx of settlers by rail in 1893 and another, largely from the United States, in 1895. In 1898 a group of twenty or more Polish families began settlement in an area west of Leduc and south and south-west of the present town of Devon. By 1901 the town was well established, and its population had reached 112. By 1906, when the town was incorporated, it had a commercial core

consisting of twenty three various businesses, and by 1911 the population had exceeded 500 persons.[11]

The first settlers in the Morinville area arrived in 1891 from French Canada, and from Germany via North Dakota. Several well organized groups of French Canadians were led into the district by the Oblate Missionaries, a Roman Catholic order which was very active in the region's early development, and of which Father Lacombe was a member. The location of the present town was influenced by the overland supply trail from Edmonton to Athabasca Landing. A stopping place on the trail became a hamlet as the area was first settled, then developed into a more complete service centre after the railway, which guaranteed the town's continued existence, was constructed about 1910. In 1897 Morinville was connected by telephone with Edmonton;[12] by 1911, when the town was incorporated, its population was close to 400 persons.

In about 1889 forty families of Austrian settlers moved into what is now the Stony Plain district and founded a new settlement named Hoffnungsau.[13] In the spring of 1892 a large number of Lutheran immigrants swelled the area's population

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11. C. Stout, ed., From Frontier Days in Leduc and District: 65 Years of Progress: 1891-1956, Leduc, 1956, p. 8-17. Population figures are from Edmonton Regional Planning Commission.

12. Aristide Phillipot, O.M.I., Cinquante Annees de Vie Paroissiale, Morinville (1891-1941), Edmonton, 1941, p. 137.

13. V. J.Eylands, Lutherans in Canada, Winnipeg, 1945, p. 318, 319.

considerably. Settlement continued steadily through the 1890 s but the site of the present town of Stony Plain was not finally selected until the Canadian Northern Railway reached the town in 1905. The railway company followed the general policy of locating its stations at seven mile intervals, but Stony Plain was located only three miles from Spruce Grove as it was felt that hilly country to the west would not provide as suitable a townsite.[14]

Of the group which settled in the Stony Plain district in 1892, several families moved into the area near the present town of Spruce Grove. Most of them came from Elmira, Ontario, and were of German descent. By 1915 continuing immigration had resulted in the occupance of all available farmland in the area. Aside from the existing town, two small urban nuclei evolved, one of them one-half mile east of the present town, and the other, called Spruce Grove Centre, three miles east. Both were abandoned when the present townsite was fixed by railway builders with the construction of a station in 1910.[15]

It is interesting to note the very obvious and widespread role played by the railways as the locational factor in the establishment of many of the region's towns. Railway sidings, stations and grain elevators at regular intervals along the rights-of-way provided the nuclei for thousands of potential

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14. Pers. comm., W. Kreye, Stony Plain, Alberta, March 1964.

15. Pers. comm., Mr. W. McLeod, Spruce Grove, Alberta, March 1964.

urban developments in the prairies. While it was the towns' umlands and interrelations with other towns which greatly influenced their development or stagnation, it was the railways which actually sited them.

A pattern of urban centres evolved with Edmonton serving the region as the central city. Four towns, Fort Saskatchewan, Leduc, Morinville, and Stony Plain, evolved as sub-centres serving the local requirements of agricultural districts, and a scattering of smaller urban nuclei filled interstices in the regional network of service functions.

Saint Albert, because of its proximity to Edmonton, developed a lesser commercial service function than did the other towns, and became more of a religious institutional centre. Spruce Grove, situated between Stony Plain and Edmonton, developed an agricultural service function but failed to keep pace with Stony Plain's development. Rural population reached a peak between 1926 and 1936 with the populations of the four sub-centres stabilizing between 800 and 1000 persons until after 1946.[16] Population of the central city grew steadily at an average rate of 2000 persons per year, based primarily on the city's functions as a marketing, processing, and distribution centre. The city's population and functional base, however, were soon to be augmented by regional development of another sort.

The year 1947 initiated a rapid series of oil discover-

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[16] Marlyn and Lash, op.cit., p. 458.

ies in the Edmonton area beginning near Leduc. The large financial investment as well as the great number of people involved in the development of the oil fields and secondary industries greatly accelerated the region's growth. By 1951 the population of Leduc had doubled the 1947 figure, and Edmonton's annual growth had jumped to an average of 10,000 persons, a rate of increase which the city has since maintained.

As the Leduc-Woodbend oil and gas field, north west of Leduc, expanded rapidly, Imperial Oil Company decided to build a new, more centrally located town in the area. Since the field extended both north and south of the North Saskatchewan River and a reliable water supply was required, a site on the river was chosen near a point where conditions were favorable for bridge construction. The new town was the first in Canada to be completely designed by a planning body before it was laid out and settled in 1947 and 1948. Complete utilities were supplied as soon as the town was occupied. By 1951 there were 840 people in Devon and by 1954 the population had reached equilibrium between 1,400 and 1,500 persons.

The discovery of a field of high quality natural gas near Fort Saskatchewan in 1951 gave that town an industrial potential which helped to attract several industries. A large nickel refinery requiring adequate rail facilities for ore shipment, and large quantities of water and natural gas for refining processes, moved to the town in 1952. Other industries including chemical producers and a fibre glass manu-

facturer have since established plants in the town. Fort Saskatchewan's population, which had stabilized at approximately 1,000 persons since 1916, expanded to 3,766 between 1951 and 1964.

During much of the same period, growth of the region's central city led all metropolitan areas in Canada in terms of proportional increase. Suburbs expanded rapidly. The adjacent towns of Beverly and Jasper Place increased in population from 1,200 and 4,000 persons respectively in 1946, to 9,000 and 30,000 respectively in 1961; both towns have subsequently been amalgamated with Edmonton.[17]

Metropolitan expansion generated another new town, Sherwood Park, actually a residential suburb of Edmonton, four miles east of the city. The community was initiated about 1954, by which time a group of developers had assembled an area of rolling land as a speculative venture on the margins of the Cooking Lake moraine. In 1955 approximately 400 persons had moved to the new community which has since expanded to accommodate a population of nearly 5,000. Continuing metropolitan growth has also been manifest in rapidly expanding Saint Albert. Since 1956, when its population was 1,320 persons, Saint Albert has grown to accommodate between 8,000 and 9,000 persons and, in function, has become essentially another residential suburb of Edmonton, since most of the town's resi-

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17. Beverly was amalgamated with the city at the end of 1961 and Jasper Place followed suit in 1964.

dents are employed in the city. To date the rapid new development in Saint Albert has avoided the oldest parts of the town, particularly the original commercial core, much of which is unkempt in appearance. The result is a considerable gap on all sides between the old town's nucleus and the surrounding new residential subdivisions.

More recently, Leduc has been expanding to accommodate employees of the new international airport situated near-by. The town's population, which doubled between 1946 and 1951, then stabilized near 2,100 persons until 1959, has begun expanding once again and is now approaching 3,000 persons. Spruce Grove, fifteen miles west of Edmonton has also begun to experience some of the effects of metropolitan expansion and a new speculative residential subdivision has recently commenced development. To date, however, population has increased only gradually.

Both Morinville and Stony Plain remain relatively unaffected physically by metropolitan expansion and the populations of both towns have remained comparatively stable since 1946. Of the two towns, Stony Plain has shown the steadier growth; it has accumulated more urban facilities and performs more central functions for its surrounding area.

In summary, the patterns of regional development have proceeded in three distinct stages. The first consisted of an initial rapid agricultural settlement facilitated by railway construction. The second was a longer period of gradual

consolidation while farm land was cleared, settlement patterns were crystallized and a regional network of service functions emerged. The third stage began in 1947 with oil exploitation and almost immediately involved the development of numerous allied and secondary industries. The great investment and large numbers of people engaged in the development greatly accelerated growth of the regional population and economy, and were largely responsible for Edmonton's rapid expansion into a city of metropolitan status. Concurrently, there have been marked alterations in the number, sizes and functions of the study towns.

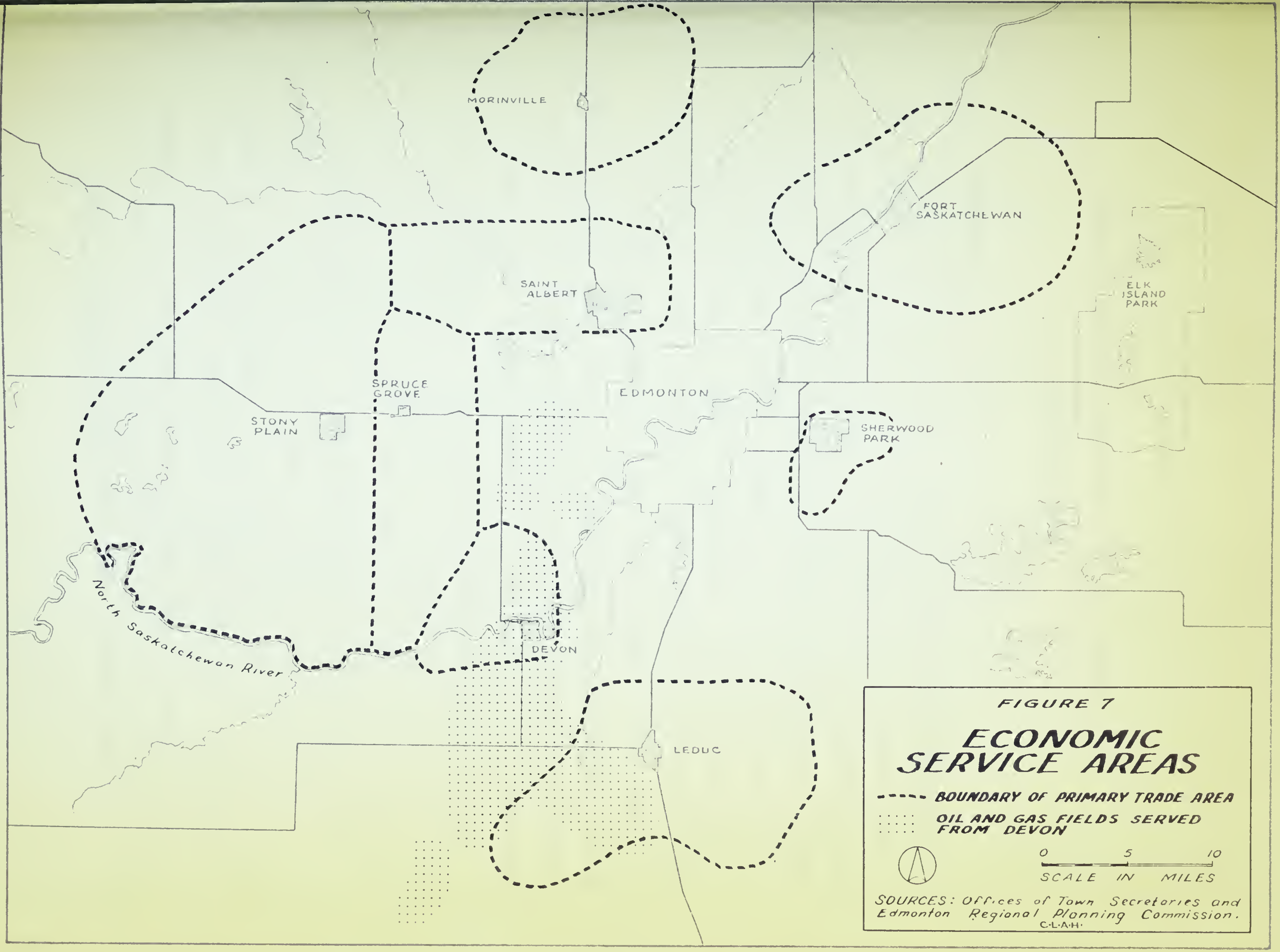

FIGURE 7

ECONOMIC SERVICE AREAS

SOURCES: Offices of Town Secretaries and Edmonton Regional Planning Commission.

CHAPTER 3

THE RESIDENTIAL SATELLITES: SAINT ALBERT AND SHERWOOD PARK

A. INTRODUCTION

As indicated in Table 7, Saint Albert and Sherwood Park have the lowest overall ratios of floor space to population. This is entirely a reflection of their non-self-sufficient nature and of their characteristic function as residential satellites of Edmonton. Sherwood Park, a very new town, has not yet developed a wide range of functions. On the other hand, Saint Albert, one of Alberta's oldest towns, has evolved most of the functions common to other study towns. These functions have rapidly decreased in relative importance, however, as the town has undergone considerable population growth and residential expansion. Characteristic of both towns is the fact that growth of commercial and industrial facilities has not kept pace with population increases. A further characteristic is that large proportions of the towns' populations are employed in Greater Edmonton,[1] a situation firmly establishing their status as dormitory satellites. A third characteristic, found in varying degree in all the study towns but most of all in the residential satellites, is that Edmonton, through the supply of various goods and services, performs some of the

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[1] "Greater Edmonton" includes the city proper and its eastern industrial area.

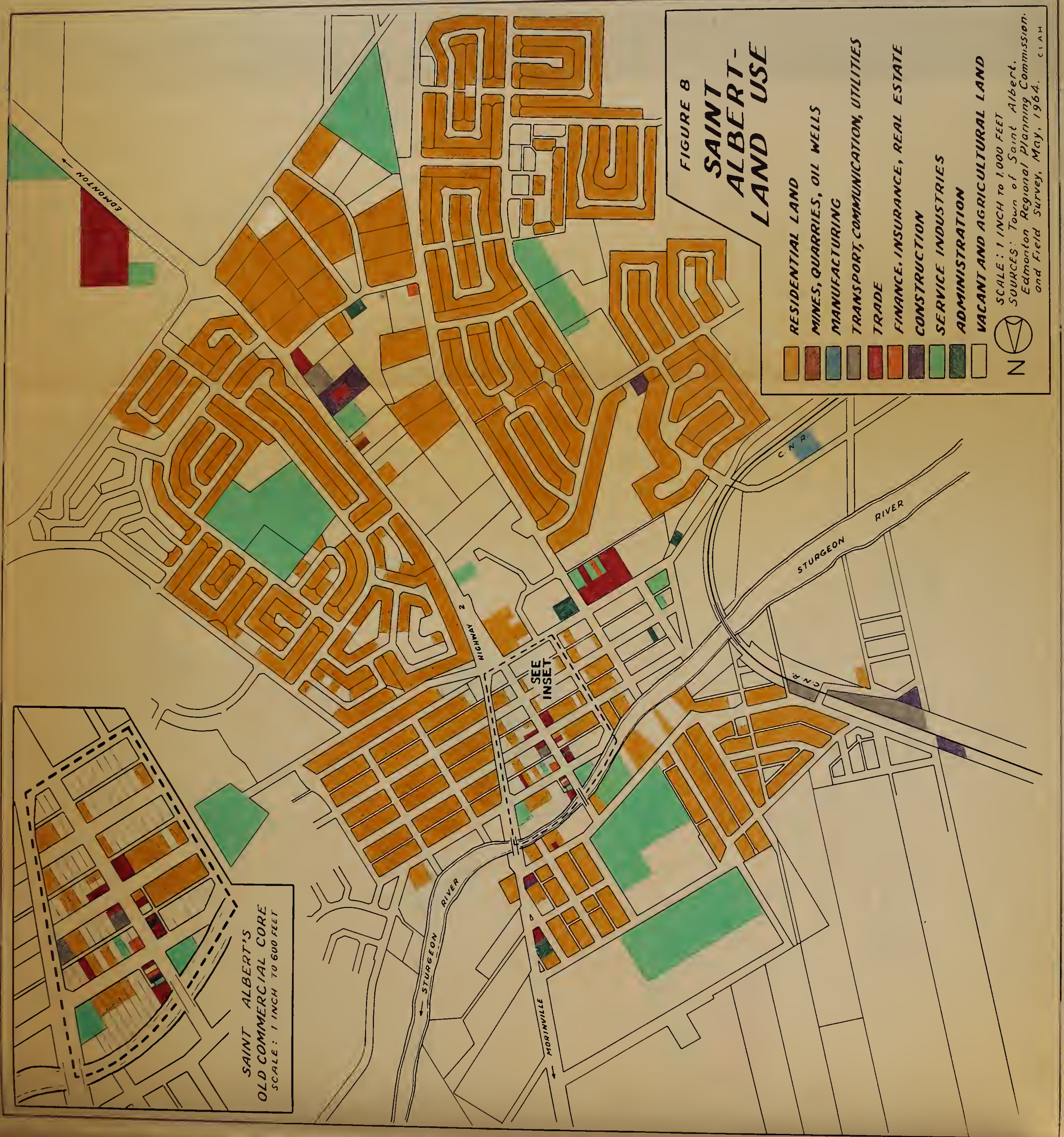

FIGURE 8

SAINT ALBERT - LAND USE

RESIDENTIAL LAND
MINES, QUARRIES, OIL WELLS
MANUFACTURING
TRANSPORT, COMMUNICATION, UTILITIES
TRADE
FINANCE, INSURANCE, REAL ESTATE
CONSTRUCTION
SERVICE INDUSTRIES
ADMINISTRATION
VACANT AND AGRICULTURAL LAND
N
SCALE: 1 INCH TO 1,000 FEET
EDMONTON
HIGHWAY 2
SEE INSET
C.N.R.
C.N.R.
STURGEON RIVER
STURGEON RIVER
MORINVILLE
SAINT ALBERT'S OLD COMMERCIAL CORE
SCALE: 1 INCH TO 600 FEET
C I A H

SOURCES: Town of Saint Albert. Edmonton Regional Planning Commission. and Field Survey, May, 1964.

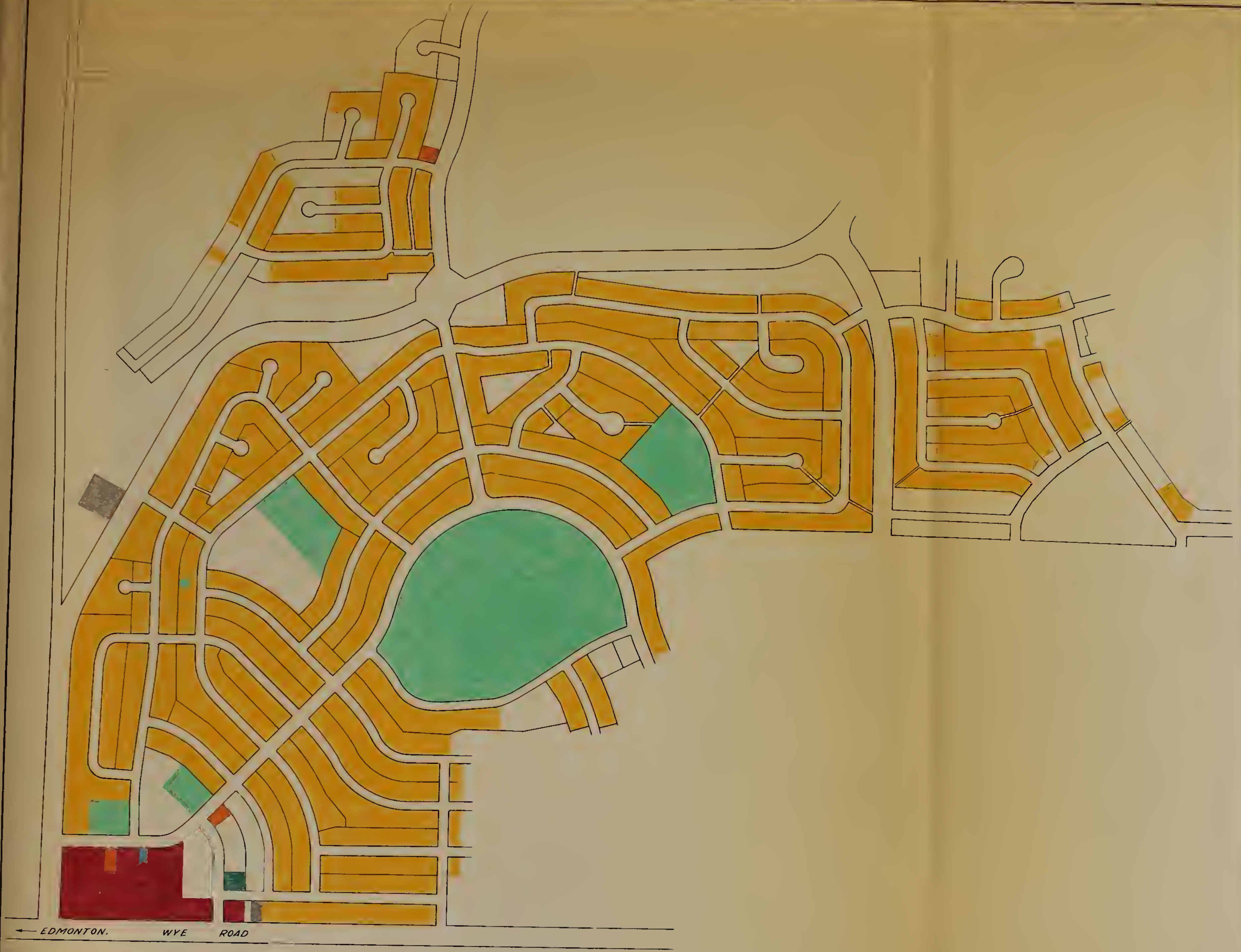

FIGURE 9

SHERWOOD PARK – LAND USE

🟧 RESIDENTIAL LAND
🟦 MANUFACTURING
⬜ TRANSPORT, COMMUNICATION, UTILITIES
🟥 TRADE
🟧 FINANCE, INSURANCE, REAL ESTATE
🟩 SERVICE INDUSTRIES
⬜ VACANT AND AGRICULTURAL LAND
🟩 ADMINISTRATION

SCALE : 1 INCH TO 800 FEET

SOURCE: Offices of the County of Strathcona, Edmonton, and Field survey conducted in April, 1964.

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functions which could otherwise be performed in the towns themselves.

The limited trading function serves as a useful indicator of the towns' characteristics since it involves typical interrelations with trade areas and with the city of Edmonton. Many of these interrelations are common to other town functions.

B. TRADE

The two primary factors contributing to the lowness of ratios in the residential satellites' trade category are proximity to Edmonton and mobility of population. Due to these factors and the employment of most residents in Edmonton, many retail supplies are purchased in the city. For the same reasons, the towns' trade areas are small and, as a result, only comparatively few facilities are required to serve them. In both cases, the trading establishments are primarily concerned with serving urban populations.

Saint Albert's trade area,[2] containing a population, out-

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[2] The trade area referred to is the "primary" trade area, that region in which most of the residents patronize businesses in the central town. Thus, in a commercial sense, the primary trade area functions as an integral part of the town. This area corresponds closely with the area over which the town distributes day to day requirements such as groceries, hardware, gasoline and various drug store items. Beyond the primary trade area, and merging with its edges, lies a "secondary" trade area where a central dominance is not so firmly established and where more than one centre may compete for the inhabitants' business. The trade area boundary was located, as illustrated in Figure 7, according to information obtained from the office of the Town Secretary, Saint Albert, and by interviews with several local businessmen.

side the town, of approximately 1,000,[3] is greatly affected in both its small size and its eccentricity of shape by proximity to Edmonton. Due to the orientation of the area's main roads, it is much elongated in an east-west direction. Yet, because of greater age and due to the well defined trade area, Saint Albert has evolved types of commercial facilities which neither of the new towns, Devon and Sherwood Park, possesses. Thus, in addition to its now predominant function as a residential satellite, Saint Albert retains its older function as an agricultural service centre. Consequently many of the town's facilities, such as those concerned with bulk oil, hardware and farm supplies, are similar to those of other agricultural service centres, although not as extensive.

Sherwood Park's primary trade area extends only a short distance beyond the town and for the greater part covers a group of scattered ex-urban settlements and small holdings, the total population of which is approximately 500. The area is less intensively served than other trade areas due to the limited number and variety of stores in the town. Like other trade areas, that of Sherwood Park is much influenced by its proximity to Edmonton. Although an estimated 10 per cent of the town's grocery and hardware business is provided by evening shoppers from Edmonton,[4] where store hours are restricted

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[3] Canada, Dominion Bureau of Statistics, 1961 Census of Canada - Population, Ottawa, 1962.

[4] Pers. comm., Mr. R. McElden, Manager, Safeway Store, Sherwood Park, Alberta, October 1964.

by an early-closing bylaw, Sherwood Park's trade area is greater in extent to the east and south than to the north and west toward the city.

Merchants of both satellite towns are subjected to intensive competition from Edmonton. One Saint Albert storekeeper reported that the greatest problem for the town's businessmen is proximity to Edmonton,[5] and many other persons in both towns indicated that large numbers of their customers patronize Edmonton businesses.[6] In addition, wholesale goods are supplied to both towns through Edmonton and a large portion of these goods is transported by city truckers rather than local ones.[7]

In summary, both towns serve limited trading functions which are much affected by proximity to Edmonton. Sherwood Park, a very new town, differs basically from Saint Albert

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5. Reply to business questionnaire: Perron's General Store, Saint Albert, Alberta, February 1964. The questionnaire is summarized in Chapter 1, Section C.

6. Of twelve Saint Albert firms answering a questionnaire, all reported noticeable competition from Edmonton. Six said most of their customers go with varying degrees of frequency to Edmonton for the same goods or services offered locally. The remaining six affirmed that a minority of their customers go to Edmonton.
In Sherwood Park, six firms answered the questionnaire and all reported noticing Edmonton competition. Three reported that a majority of their customers go to Edmonton, while three indicated that a minority of their customers act similarly.

7. Of ten Saint Albert firms buying wholesale supplies, nine reported obtaining from 60 to 100 per cent of the supplies from Edmonton while one reported 40 per cent. Five Sherwood Park businesses buying wholesale supplies replied to the questionnaire and each reported obtaining many of the supplies from Edmonton; the average proportion reported was 66 per cent.

in its lack of an agricultural service function and well defined trade area.

C. CONSTRUCTION

In response to rapid population expansion in both towns, the construction industry has been most active. It is of major significance in both but points out a basic dissimilarity between them. Although Sherwood Park has attracted much new construction in recent years, the construction industry occupied no permanent facilities in the town at the time of survey. New construction is handled by firms which are based in the near-by city and occupy only temporary quarters in the town.

Building construction in Saint Albert is also handled mainly by firms based in Edmonton but, in contrast to Sherwood Park, numerous construction facilities are established. For example, early in 1964, there were nine building contractors and six plumbing, heating, electrical and plastering contractors. The construction category is the only one in which the town has a higher than average floor space ratio.

The importance of the construction industry in the residential satellites is indicated by the total value of building permits issued during the period 1960 through 1963. This value approached $18,000,000 in Saint Albert and $6,600,000 in Sherwood Park as compared for example to $4,700,000 in Leduc, $3,400,000 in Fort Saskatchewan and $1,700,000 in Stony Plain (see Table 13).

TABLE 13

Value of Building Permits Issued Annually - Thousands of Dollars

Year	Devon		Fort Sask.		Leduc		Morin-ville		Saint Albert		Sherwood Park		Spruce Grove		Stony Plain	
	Resid. Const.	Total Const.	Resid. Const.	Total Const.	Resid. Const.	Total Const.	Resid. Const.	Total Const.	Resid. Const.	Total Const.	Resid. Const.	Total Const.	Resid. Const.	Total Const.	Resid. Const.	Total Const.
1951			16	17											22	57
52			301	590					38	64					43	133
53			799	842					73	81					83	176
54			786	897	64	87			78	100					91	278
55			1264	1603	123	135			170	427		1009			70	117
56			434	533	127	218			197	269		227			48	85
57	17	19	189	710	162	293	18	299	521	533		1225			101	153
58			515	613	195	410	5	85	1615	2674		3201			114	334
59	10	90	356	487	484	638	26	47	1812	2025	2215	2465			173	405
60	93	93	108	150	1102	1429	14	15	2633	3100	427	538			161	215
1961	25	29	457	1599	378	1044	74	274	2909	3819	1925	2100	124	276	120	183
62	7	11	346	463	387	1734	89	134	5553	5721	1368	1486	140	144	155	944
63	90	448	349	1186	478	537	73	138	4185	5219	1747	2489	222	239	103	382

Sources: Canada, Dominion Bureau of Statistics, Census of Canada - Building Permits. 1951-1956; 1956-1961; 1962; 1963, Ottawa; and Offices of the County of Strathcona, Edmonton, December 1964.

D. OTHER FUNCTIONS

Other functions in both satellite towns are of comparatively minor significance. For example, the group of activities involved in the "Transportation, Communication and Other Utilities" category in both towns produces lower than average floor space ratios. This category, like "Trade", serves to point out two significant characteristics of the towns. Firstly, it indicates close affiliation with the city, as the water and telephone systems, for example, of both towns are integrated with Edmonton's. Secondly, through its railway facilities and grain elevators, the category reflects Saint Albert's agricultural service function and emphasizes Sherwood Park's lack thereof. The close affiliation of both satellites with Edmonton is further emphasized by activities of the city's trucking industry, which performs much of their potential transportation function through the movement of wholesale goods.[8]

The real estate business, closely associated with "Construction", is very active in both towns, though it is handled largely by branches of Edmonton firms. The other aspects of the "Finance, Insurance and Real Estate" category are handled largely in Edmonton, however, and the significance of the

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[8] All ten Saint Albert firms answering a questionnaire reported their wholesale goods were transported completely or in part by Edmonton-based truckers. The average proportion reported was 63 per cent.
In Sherwood Park, four retailing firms answered and all reported that large portions of their wholesale goods were delivered by Edmonton truckers (see Table 12).

category is thus somewhat reduced.[9] Businesses in all the other study towns also use Edmonton finance, insurance and real estate facilities frequently, but the proportions of firms doing so are highest in Saint Albert and Sherwood Park.

There is a wide difference between the towns in the "Service Industries" category. Both have low ratios, but Saint Albert's service industries are more extensive than those of any other town in the group.[10] The major contributors are the largest establishments in the town, a Roman Catholic mission and a large seminary, jointly occupying one-half of the service industries floor space. Through these establishments Saint Albert's function as a religious centre is extended over most of Alberta. The mission has expanded from the one begun by Father Lacombe in 1861, and the seminary was constructed in 1956. Sherwood Park has the lowest service industries ratio, although completion of new facilities, such as a golf club, will raise the ratio immediately; even so, it will not exceed one-half the average. The section of the category concerned with business services in both towns is widely affected by Edmonton, since many businesses make use

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[9] Of twelve Saint Albert businesses replying to a questionnaire on the topic, five reported that they deal with Edmonton financial firms rather than local ones, and six businesses reported the use of Edmonton insurance agencies. In Sherwood Park, two businesses, of five reporting, indicated the use of Edmonton financial facilities, while three reported the use of Edmonton insurance agents.

[10] Saint Albert's service industries occupy nearly twice the floor space of those in Leduc, the nearest rival. Saint Albert, however, has three times Leduc's population.

of Edmonton facilities,[11] a characteristic which is particularly evident in the residential satellites.

Other functions are performed almost entirely by facilities centralized in the city. For example, in the "Mines, Quarries and Oil Wells" category, Edmonton is the headquarters of numerous oil field servicing and exploration firms, Saint Albert is base of operations for one small geophysical exploration firm, while there are none in Sherwood Park. The residential satellites also have the lowest manufacturing floor space ratios: eight small industries, producing baked foods, upholstery, printed products, machined items and concrete vaults, are involved, all of which, except one baker, are in Saint Albert.[12]

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[11] Despite the presence of an accounting firm and a business consultant in Saint Albert, eight of twelve firms reporting indicated that they use Edmonton accountants, while two reported the use of Edmonton consultants. Ten firms reported engaging Edmonton legal services. The town's lawyer has his main office in Edmonton and makes regular visits to Saint Albert. The only business service provided in Sherwood Park is banking; other services are obtained from Edmonton (see Table 10).

[12] At the time of survey, in 1964, a new factory to produce food containers from pressed wood pulp was under construction in west Saint Albert. To employ from twenty to twenty-five persons, the plant was to produce for western Canadian markets. Edmonton Journal, October 29, 1963, p. 3.
Saint Albert's manufacturing ratio, though more than doubled by the new plant, will still remain considerably below the average.

E. SUMMARY

The residential satellites show peculiarities of functional structure which are not found in the other study towns. Their low floor space to population ratios in all functional categories have resulted from sudden and large influxes of population which have given the towns their distinctive residential character. The towns do not possess their own economic bases *per se*; most of their workers are employed in Edmonton, a city which not only provides services lacking in the towns, but frequently competes actively for the performance of services available in both town and city.

The two towns, though similar in their basic residential function, are greatly dissimilar in other functions and in their backgrounds. Saint Albert, a very old town by Alberta standards is a much more complete urban centre than Sherwood Park which has not yet evolved a varied functional base. This is particularly noticeable with respect to the agricultural service function, which is small but active in Saint Albert and completely lacking in Sherwood Park.

For practical purposes, Sherwood Park may best be considered an integral part of Edmonton at the present time because, although the town is physically separated, it functions much as any other city suburb. Much the same statement may be made concerning Saint Albert; it is applicable in only a slightly lesser degree.

CHAPTER 4

DEVON - THE OIL TOWN

A. INTRODUCTION

Devon's chief distinguishing characteristic is its activity in the oil and gas industry. Founded as an oil town and situated on the Leduc-Woodbend oil and gas field, Devon has always been oriented toward and dominated by the petroleum industry. Other functions in Devon, notably transportation and construction, are closely associated with it. A town as recently established as Devon may be expected to have comparatively few functions or a comparatively small trading area, or both, relative to older towns in which wider ranges of functions have had time to develop. In Devon's case this newness is reflected in the town's lack of an agricultural service function and limited trade area; the only activity in which Devon functions as a regional service centre is the oil and gas industry. Several of the town's businesses are specialized oil field servicing, maintenance and construction firms which operate in the surrounding area. Offices of the Oil and Gas Conservation Board, and the field supervisory offices of an oil company serve to reinforce the central function.

B. MINES, QUARRIES AND OIL WELLS

Devon's second largest but most characteristic functional category is "Mines, Quarries and Oil Wells", which occupies

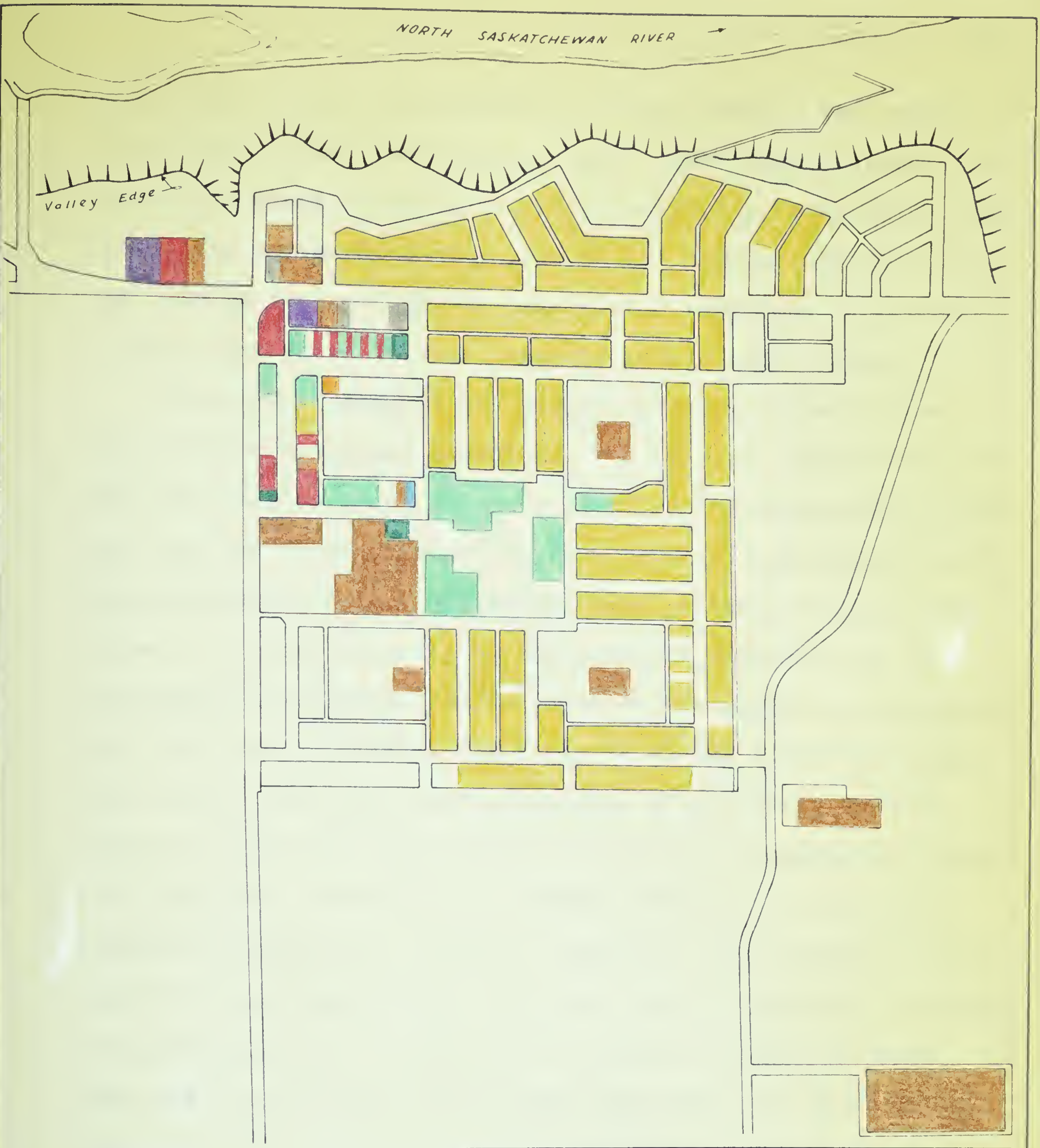

FIGURE 10

DEVON — LAND USE

🟨 RESIDENTIAL LAND

🟫 MINES, QUARRIES, OIL WELLS

🟦 MANUFACTURING

⬜ TRANSPORT, COMMUNICATION, & UTILITIES

🟥 TRADE

🟧 FINANCE, INSURANCE, REAL ESTATE

🟪 CONSTRUCTION

🟩 SERVICE INDUSTRIES

🟩 ADMINISTRATION

⬜ VACANT AND AGRICULTURAL LAND

SCALE: 1 INCH TO 800 FEET

SOURCE: Edmonton Regional Planning Commission, and Field Survey: May, 1964.

CLAH

24 per cent of the non-residential floor space. The contributors are: a gas conservation plant - the town's largest industry - a group of seven oil field servicing firms which operate in the surrounding area, and an oil company office building. Their total of 62,000 square feet represent 77 per cent of the floor space in this category in all eight towns.

In several respects the mining category reveals close ties between Devon and Edmonton. The primary function of the gas conservation plant is the collection and separation of natural gas and other commodities from crude oil produced in the Leduc-Woodbend field. Ninety per cent of the gas thus "conserved" is piped directly to Edmonton for distribution by Northwestern Utilities Limited, the city's natural gas supplier. The functions of Devon's oil field servicing firms are simply the routine servicing and maintenance of oil field installations, while more specialized services are supplied by Edmonton companies. From the oil company offices, a branch of a regional headquarters located in Edmonton, the company's local operations are supervised; the same company operates a refinery and packaging plant in Edmonton's eastern industrial area. Thus the town has many functional ties with the region's central city, but it also has a well developed tributary area derived from its function as an oil field service centre. The total variety of services extended to the area, however, is less than that supplied to other economic service areas by central towns having broader functional bases.

C. CONSTRUCTION

Devon's construction industry is largely concerned with oil field work outside the town and emphasizes the oil field service function. Although construction of buildings within the town has revived somewhat since 1959, Devon's construction industry is a regional activity in contrast to Saint Albert's, for example, which is concentrated within the town and is primarily concerned with residential expansion. Devon's ratio, however, is nearly twice that of Saint Albert, its nearest rival, because, although Devon has one-third Saint Albert's construction floor space, it has only one-sixth the population.

D. TRANSPORTATION, COMMUNICATION AND UTILITIES

In this field also, Devon is strongly influenced by the oil and gas industry. Approximately 18 per cent of the floor space is occupied by an oil pipe line company, and the town's active trucking industry does much work in the surrounding oil fields. Even the water treatment facilities, now owned by the town, were constructed by an oil company when Devon was established. Due primarily to the pipe line company's offices and the relatively large water treatment facilities, Devon's ratio is nearly double the average and much above the nearest rival, Leduc.

In the absence of rail facilities, nearly all of Devon's freighting is done by a local trucking industry which appears relatively little affected by Edmonton.[1]

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[1] Only one firm of the seven replying to a questionnaire indi-

E. OTHER FUNCTIONS

As is the case with other new towns, Devon's ratio in the Trade category is below average. This is primarily a reflection of the recency of development and the lack of a well established trade area. The town of Stony Plain, for example, with the same population as Devon and a well defined trade area, has three times the number of establishments and four times the floor space engaged in retail trade.

The facilities occupied by Devon's retailers are typical of those in most of the study towns, though they are less numerous in Devon (see Appendix 1). As in the other new towns, retailing is primarily concerned with local sales. Much of the demand for goods, both in the town and its surrounding area, is met from other centres. As a result, Devon lacks several types of common retail outlets: furniture dealers, general farm supply dealers, machinery dealers, and specialty stores. The lack of facilities which would give the town an agricultural service function is particularly noticeable. Although some of the commodities involved above are frequently handled through other general retail outlets, some towns, such as Stony Plain and Morinville, no larger than Devon but serving wider regions, do have more stores of a specialized nature.

The influence of older urban centres, Leduc and particu-

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cated that some of its wholesale supplies are delivered by Edmonton truckers (see Table 12).

larly Edmonton, is at least partially responsible for inhibiting the development of certain retail facilities in Devon. Leduc has been the traditional service centre for the agricultural area near Devon on the south side of the North Saskatchewan River, while Edmonton and Spruce Grove have served the area north of the river. In some respects, notably grain deliveries, these influences continue, but now that Devon is linked with Edmonton by a paved highway the city's influence is likely to increase, particularly in the retail trade. In addition, the town's administration and the Chamber of Commerce are actively encouraging Edmontonians to move to Devon, a factor which may well serve to strengthen Devon's shopping ties with the city. Already several Devon merchants report noticeable competition from Edmonton.[2]

The city also continues its traditional function as a supply centre for Devon businesses.[3]

In the manufacturing industry, Devon's low ratio shows a marked kinship with the two other "new" towns, Sherwood Park and Saint Albert. In all three centres manufacturing is a minor function not only on a per capita basis but also in the

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[2] For example, of four businesses which replied to a questionnaire, one reported that the majority of its customers go occasionally to Edmonton for the same goods and services offered locally, while the others reported that a minority of their customers go (see Table 11).

[3] Of seven firms requiring wholesale supplies and which answered the questionnaire, six reported obtaining supplies from or through Edmonton. The average proportion reported by the seven was 69 per cent.

sense that it occupies a minor portion of the towns' total floor space.

In "Finance, Insurance and Real Estate", Devon differs somewhat more from the two other towns, in each of which the category has a low ratio. This is a category of prevailing low ratios, however, and variations between towns are correspondingly small. Devon's ratio, though, is above average due to the facilities of an investment firm in addition to the ubiquitous bank branch and real estate and insurance firm. Despite the relatively high ratio the town's functions in this field are significantly affected by the practice, adopted by some Devon businesses, of using Edmonton agencies rather than local ones.[4] In the "Service Industries" category, Devon's ratio is the one nearest the average. The proportion of the category composed of commercial establishments is also near the average of 12 per cent. That section of the category concerned with business services is particularly affected by Edmonton, as the city supplies some services lacking in Devon and competes for others.[5] "Public Administration and Defence" in Devon involves a standard assortment of facilities necessary for town administration: town offices, police and fire stations, and a mainten-

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4. Of six firms replying to a questionnaire on the topic, three reported the use of Edmonton financial facilities and one reported using an Edmonton real estate firm (see Table 10).

5. For example, five firms, of six reporting, indicated the use of Edmonton legal services, while despite the presence of a local accountant, two firms reported using Edmonton accounting facilities (see Table 10).

ance garage for town equipment. In addition, the provincial government's Department of Public Works maintains offices of the Oil and Gas Conservation Board which occupy 25 per cent of the floor space in the category. None of the facilities, however, are extensive and Devon's ratio is relatively low.

F. SUMMARY

Devon's total non-residential floor space amounts to 18,100 square feet per 100 persons which is virtually the same as the average for all eight study towns. There are, however, sharp deviations from the average in certain categories of activity. The range of functions differs from that of the other towns largely because of Devon's recency of development, but the differences are primarily caused by the oil and gas industry which provided the initial impetus for the town's development and which continues to be the town's most influential activity. More facilities are operated by and for the oil and gas industry in Devon than in the seven other towns combined. None of the other towns have oil wells situated within their built up areas; indeed, Devon is the only town in the group to be laid out to accommodate oil wells from its inception. The oil and gas industry has had many secondary effects; both the construction and transportation industries are strongly oriented towards it, and it has produced a group of activities which has given Devon its only function as a regional centre.

In other fields, Devon performs fewer services than do

most of the other towns; it serves a less extensive trading area, and has no function as an agricultural service centre; most of its retail trade serves only the immediate community. As Saint Albert and Sherwood Park are specialized residential towns, Devon is a specialized "oil town".

CHAPTER 5

FORT SASKATCHEWAN - THE MANUFACTURING TOWN

A. INTRODUCTION

Fort Saskatchewan has become the only true manufacturing town in the study group. Its original function as a quiet agricultural service centre was altered radically in the early 1950's beginning with the construction of a large nickel refinery. The refining company, Sherritt Gordon Mines Limited, had acquired large deposits of commercial-grade nickel-copper-cobalt ore at Lynn Lake, Manitoba in 1946, and had begun conducting research to develop improved refining methods. By 1949, it had innovated a revolutionary metallurgical refining technique using a leaching process based on the use of anhydrous ammonia, which is most economically produced from natural gas.[1] A projected refinery therefore required an Alberta location since, in 1951 at the time of site selection, long distance transmission of gas by pipe line was a future undertaking.[2] Discovery of natural gas at Fort Saskatchewan in the same year attracted the company's interest. Other factors affecting the choice of a refinery site at the town involved the fact that it was situated on a main line of the Canadian National

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1. *Sherritt's Bold Adventure in Nickel*, a brochure of Sherritt Gordon Mines Limited, p. 10.

2. C. A. Hames, "Operations at the Fort Saskatchewan Refinery", a paper presented at the Prospector's and Developer's Convention, Edmonton, February 25, 1957, p. 12.

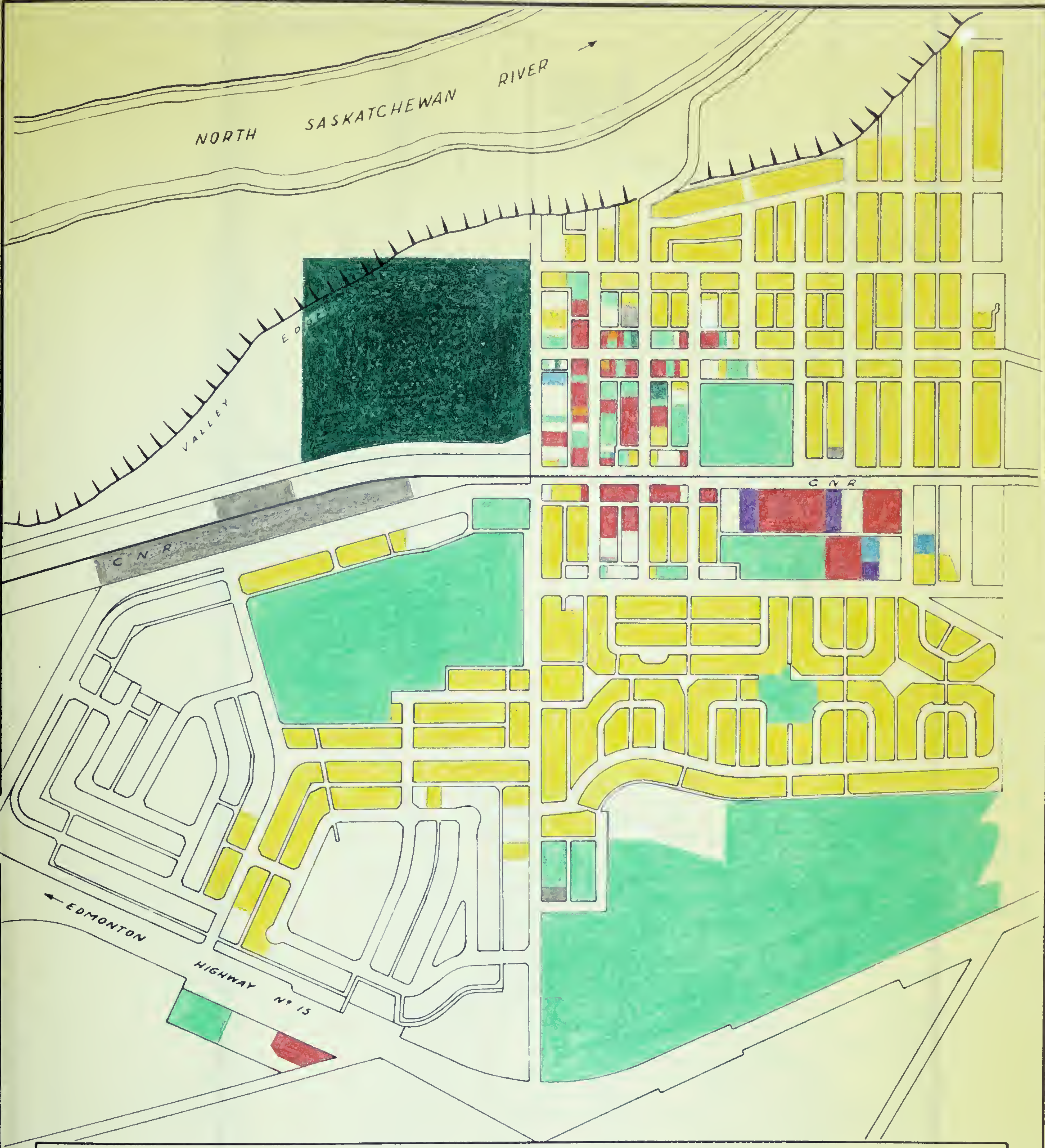

FIGURE 11

FORT SASKATCHEWAN – LAND USE

🟨 RESIDENTIAL LAND
🟫 AGRICULTURAL PROCESSING
🟦 MANUFACTURING
◼ TRANSPORT, COMMUNICATION, & UTILITIES
🟥 TRADE

🟧 FINANCE, INSURANCE, REAL ESTATE
🟪 CONSTRUCTION
🟩 SERVICE INDUSTRIES
🟩 ADMINISTRATION
⬜ VACANT AND AGRICULTURAL LAND

SCALE: 1 INCH TO 800 FEET

SOURCE: Edmonton Regional Planning Commission, and Field Survey, May, 1964.

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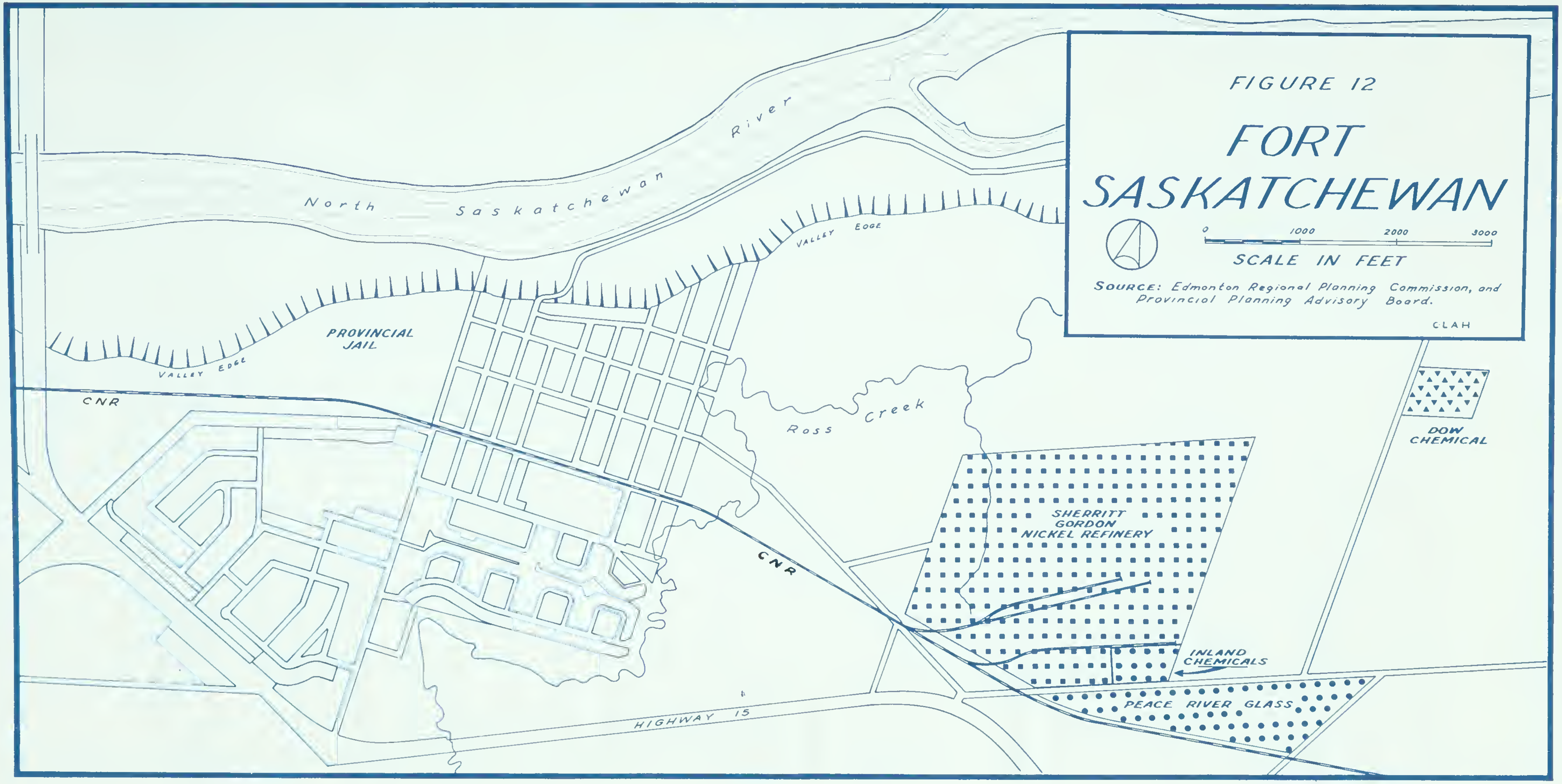

FIGURE 12

FORT SASKATCHEWAN

SCALE IN FEET

SOURCE: Edmonton Regional Planning Commission, and Provincial Planning Advisory Board.

Railway: an important consideration since the C.N.R. had constructed a 145 mile rail line for access to the Lynn Lake ore-bodies. In addition, the site had adequate supplies of water from the North Saskatchewan River for cooling and processing and was easily accessible from Edmonton, a large centre of population and a ready source of workers. An extensive tract of low cost land was also necessary - a requirement more easily satisfied in Fort Saskatchewan than in Edmonton, and the area was accessible to markets for by-products, notably ammonium sulfate, an agricultural fertilizer.[3]

Two additional manufacturing plants were constructed in Fort Saskatchewan in 1956. One, a sulfuric acid manufacturer, is closely associated with Sherritt Gordon which purchases 25 per cent of the plant's production.[4] The other, a manufacturer of fibre glass used widely in pipe line wrappings, required accessibility to oil company markets. It also required a ready supply of natural gas, and adequate rail facilities were necessary since the basic raw materials used are imported silica sand and industrial chemicals which are not available locally. An additional site requirement, which, unlike the others, could not be satisfied easily in Edmonton, was low-cost land. By 1961 another chemical company had established facilities

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3. Sherritt's Bold Adventure in Nickel, op.cit., p. 12.

4. P. J. Smith, "Fort Saskatchewan: An Industrial Satellite of Edmonton", Plan Canada, Vol. 3, No. 1, 1962, p. 9,10. The article contains a resume of Fort Saskatchewan's industrialization and the factors affecting it.

at Fort Saskatchewan and was producing industrial chemicals obtained mainly from natural gas.[5] More recently, the nickel refinery has expanded its fertilizer output and a new $1,000,000 chemical plant is proposed.[6]

Fort Saskatchewan's industrial facilities were thus attracted by three primary factors: a ready supply of natural gas, good rail connections, and relatively low land costs. The town's ratio of total non-residential floor space to population is now the highest in the study group, and approximately one-half of this space is occupied by manufacturing industries.

B. MANUFACTURING

In addition to the large nickel refinery and fibre glass and chemical plants, Fort Saskatchewan has several typical small-town manufacturing enterprises: a bakery, tire re-capping shop, printing firm, machine shop, and ready-mix concrete plant. These latter industries are minor, however, in comparison with the town's major manufacturers whose scale of operations and extensive facilities greatly surpass those of all other types of manufacturing activity in the study towns. The major manufacturers occupy 560,000 square feet of floor space accounting for 50.6 per cent of the town's total non-residential floor space and 98.5 per cent of its manufactur-

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[5] *Loc.cit.*

[6] *Edmonton Journal*, November 12, 1964, p. 3.

ing floor space. The combined manufacturing floor space of the seven other towns amounts to only 10 per cent of this area. The nickel refinery alone, the largest single establishment in Fort Saskatchewan, accounts for 433,000 square feet or approximately 75 per cent of the town's manufacturing floor space and 40 per cent of the total non-residential floor space. The two chemical factories and the glass manufacturer occupy a total of 126,000 square feet.

Fort Saskatchewan's ratio of manufacturing floor space to population is 15,053 square feet per 100 persons compared to an average for the seven other towns of only 533 square feet. The high ratio is reflected in the high proportion of the town's population of 3,766 employed in the manufacturing industries: in 1964 the chemical, nickel and glass industries employed 810 workers of which 177 commuted from Edmonton.

Aside from the employment situation, Fort Saskatchewan's large industries are quite independent of the town. Their markets are primarily Western Canadian and national rather than local, and both their manufactured products and imported raw materials are delivered by rail, or by truck either through Edmonton or through a company affiliate. Further, their requirements for business and professional services such as banking, insurance and marketing are handled primarily in Edmonton or by Eastern Canadian head offices.[7] Thus, although the impact of manufacturing has been strong in Fort

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[7] Smith, op.cit., p. 14.

Saskatchewan, as reflected in population growth and residential expansion, its expansive effects have not been extended to the entire urban economy.

C. TRADE

The transformation of Fort Saskatchewan's basic function to manufacturing involved significant reductions in the relative importance of other functions, although the latter's absolute importance has, of course, increased somewhat with expanding population. The importance of trading activity, for example, is largely masked by the dominance of the manufacturing industry. Fort Saskatchewan's trade area is as populous as that of most of the study towns but the ratio of trading floor space is only 2,681 square feet per 100 persons, compared to the average of 4,381 square feet. The ratio has fallen sharply since the early 1950 s when manufacturing development began to produce a faster growth rate in population than in trading establishments.[8] Trading functions occupy only 9.1 per cent of the town's total non-residential floor space, the smallest proportion encountered in the trading category. Nevertheless, Fort Saskatchewan continues to function generally as a trading town and more specifically as an agricultural service centre for a surrounding region.

New commercial development, stimulated by increased pop-

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[8] Since 1951, Fort Saskatchewan's population has more than trebled, while trading establishments have increased in floor area by only an estimated 50 per cent. Source: Office of the Secretary Treasurer, Fort Saskatchewan.

ulation, and anticipated in plans for Fort Saskatchewan's central business area, did not eventuate to the expected degree. Some land reserved for commercial expansion has not yet been utilized and as a result the town has a rather open central area.[9] Quite clearly, the influence of the City of Edmonton was the major factor in impeding the new growth since in the city a wide selection of competitive facilities is easily accessible to Fort Saskatchewan residents, many of whom are former Edmontonians attracted by employment opportunities.[10]

As an illustration of Edmonton's influence: of thirteen retail merchants in Fort Saskatchewan replying to a questionnaire, twelve reported noticeable competition from Edmonton businesses; five of these reported that most of the customers go to Edmonton, either regularly or occasionally, for the same goods sold locally, while seven stated that a minority of their customers go to Edmonton for the same reasons. One merchant estimated that "...50 per cent of the potential available business from our trading area is done in Edmonton".[11] Although between 1953 and 1961, Fort Saskatchewan's population increased by 120 per cent, the value of retail sales increased by

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[9] See: Edmonton District Planning Commission, A General Plan for Fort Saskatchewan, Edmonton, 1954, p. 24 and 31; and Smith, *op.cit.*, p. 12.

[10] Pers. comm., Mr. J. Ferguson, Sherritt Gordon Mines Ltd., Fort Saskatchewan, March 1964.

[11] H. D. Powell, Fort Saskatchewan, February 1964, in answer to a mailed questionnaire.

only 64 per cent.[12] The close economic ties between Edmonton and its neighboring towns are particularly evident in Fort Saskatchewan in several functional categories and have been the reasons for calling the town an industrial satellite of Edmonton.[13]

In addition to its effect as a business competitor to Fort Saskatchewan, Edmonton acts as the town's wholesale supply centre. Of twenty-three firms of all kinds answering a questionnaire concerning wholesale supplies, twenty-one reported obtaining supplies from Edmonton. The proportions obtained from the city ranged from 5 per cent of total requirements to 100 per cent, with fourteen firms reporting 90 per cent or higher (see Table 12).

In conclusion, two things seem apparent concerning Fort Saskatchewan's trade function. First, in common with other towns situated so near a large city, much of Fort Saskatchewan's potential trade is siphoned off, as many of the town's residents clearly shop in Edmonton. The second point, a direct result of the first, is that the town's trade function remains largely oriented to its agricultural service area.

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12. Alberta, Bureau of Statistics, Office of the Supervisor of Market Research, June 1964.

13. Smith, op.cit., p. 13. Since 1962, when Dr. Smith reached his conclusions as to Fort Saskatchewan's functional status as a satellite, there have been several commercial additions to the town. The close economic ties between town and city remain unbroken, however.

D. PUBLIC ADMINISTRATION AND DEFENCE

In addition to the town's regular administrative functions, the presence of a large provincial jail gives Fort Saskatchewan the highest floor space ratio in this category. The ratio of 5,133 square feet contrasts sharply with the average of 886 square feet for the seven other towns. Although supplies for the jail are purchased through a central government agency in Edmonton rather than in Fort Saskatchewan, the institution has an indirect economic effect on the town as most of its ninety employees reside locally.[14]

E. OTHER FUNCTIONAL CATEGORIES

Despite the fact that the town is situated in the midst of a rich agricultural area, agricultural floor space is a minor category. Population increases have not been accompanied by increases in agricultural floor space since the category remains primarily dependent on a static rural population. Only two establishments are involved: a veterinary clinic and an egg grading station.

Similarly, despite being situated on the Fort Saskatchewan natural gas field, the town has no floor space directly engaged in the "Mines, Quarries and Oil Wells category. Allied activities were classed under different headings; for example, facilities supplying the town and its industries with natural gas were classed under "Utilities", and sand and gravel deal-

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[14] Pers. comm., Mr. Wilson, Warden, Fort Saskatchewan Provincial Gaol, March 1964.

ers were classed in the "Trade" category.

Population increases in Fort Saskatchewan have been reflected in extensive new residential construction. Like other towns actively undergoing new development, Fort Saskatchewan has attracted a number of building contractors, tinsmiths, electrical and plastering contractors, plumbing and gasfitting contractors. Also, like other towns, Fort Saskatchewan's construction industry shows strongly the influences of the City of Edmonton; the larger construction firms engaged in the town are extensions of Edmonton companies. Discounting Devon's high ratio in this category, Fort Saskatchewan ranks close to average.

Fort Saskatchewan is equipped with typical facilities in the field of "Transportation, Communication and Utilities", but because of the large population attracted by the dominating manufacturing industry, the ratio is relatively low. Due to the extensive manufacturing facilities, the proportion of total floor space occupied by the category is also relatively low. Fort Saskatchewan, in pursuing its role as an agricultural service centre, has grain elevators totalling 233,000 bushels capacity, and the handling and storage of grain is one of the town's more significant functions. The town's transportation function is greatly affected by Edmonton, as much of Fort Saskatchewan's wholesale supplies are delivered by Edmonton truckers.[15]

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15. Of twenty-one firms obtaining supplies from Edmonton,

In the "Finance, Insurance and Real Estate" category, Fort Saskatchewan has a floor space ratio close to the average. Facilities include banks, a trust company, and real estate and insurance agencies. In this field also, the influence of Edmonton is strongly felt. In a questionnaire which twenty-four firms answered, four reported using Edmonton banking services, five reported using other financial services in the city, nine said they use Edmonton insurance services and two indicated the use of Edmonton real estate firms. Of the town's three largest industries, only one, Dow Chemical, uses local banking services although Peace River Glass maintains a local payroll account; insurance is either purchased in Edmonton or handled through Eastern Canadian head offices.

Fort Saskatchewan possesses as many types of service industry as the other study towns, but similar to other functions the share of total floor space is proportionately reduced by the extensive manufacturing installations. This is reflected clearly in the town's low floor space ratio and in the very small proportion of total floor space occupied by the category. New schools, churches, professional services, and entertainment facilities are being provided as they are in other expanding towns, but, as in Saint Albert and Sherwood Park, the

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eighteen had varying proportions delivered by truck. Ten of the eighteen reported that varying proportions of their goods are delivered by Edmonton truckers, rather than local ones; these proportions ranged from less than 10 per cent to 100 per cent with an average, for all replying firms, of 23 per cent (see Table 12).

ratio remains relatively low. A contributing factor is that many of the town's professional services are supplied, at least partially, from Edmonton. For example, as reported in questionnaire returns, seventeen of twenty-one businesses engage Edmonton accounting services, and eleven obtain legal services from the city.

F. SUMMARY

In summary, Fort Saskatchewan's unique character has resulted from the establishment of large scale manufacturing industries which have become the town's primary function, and employ most of the local work force. Other functions continue to be significant, however. Trading, for example, although it has failed to keep pace with expanding urban population, continues to be the basis of a viable agricultural service function which continues much as it did prior to the town's industrialization. A third significant function involves the facilities of a penal institution, one of the town's larger employers; it plays a more passive role than other functions, however, since its supplies are obtained elsewhere.

The near-by City of Edmonton has been a most significant and influential factor in the town's functioning and development. In various respects, such as the supply of wholesale goods and certain professional services, the city provides for the town's requirements, and so discourages the establishment and inhibits the growth of such services and their related facilities in Fort Saskatchewan. The influence is not one

of deliberate planning and execution by Edmonton businesses, however, as much as it is a matter of established practice by Fort Saskatchewan residents.

CHAPTER 6

THE TRADING TOWNS - LEDUC, MORINVILLE, SPRUCE GROVE, STONY PLAIN

A. INTRODUCTION

Virtually all urban centres are multi-functional to some extent, and the four trading towns exhibit varying degrees of specialization in several fields. For example, through their centralized schools, they function as educational centres; two of them, Stony Plain and Leduc, function as medical centres, and with the exception of Spruce Grove, each town serves as the centre of government for a surrounding county or municipal district. In addition, all four serve as the focal points of surrounding areas with respect to transportation, communication, entertainment, and many commercial transactions. Although the trading function is most characteristic of these four centres, it is not restricted to them alone; it is an important function in all other study towns. The latter, however, have other dominating functions, and it is only in the so-called trading towns that the trading function dominates. These four towns were classed as a specific type and were differentiated from the others on the strength of their high floor space ratios in the trade category (see Table 7).

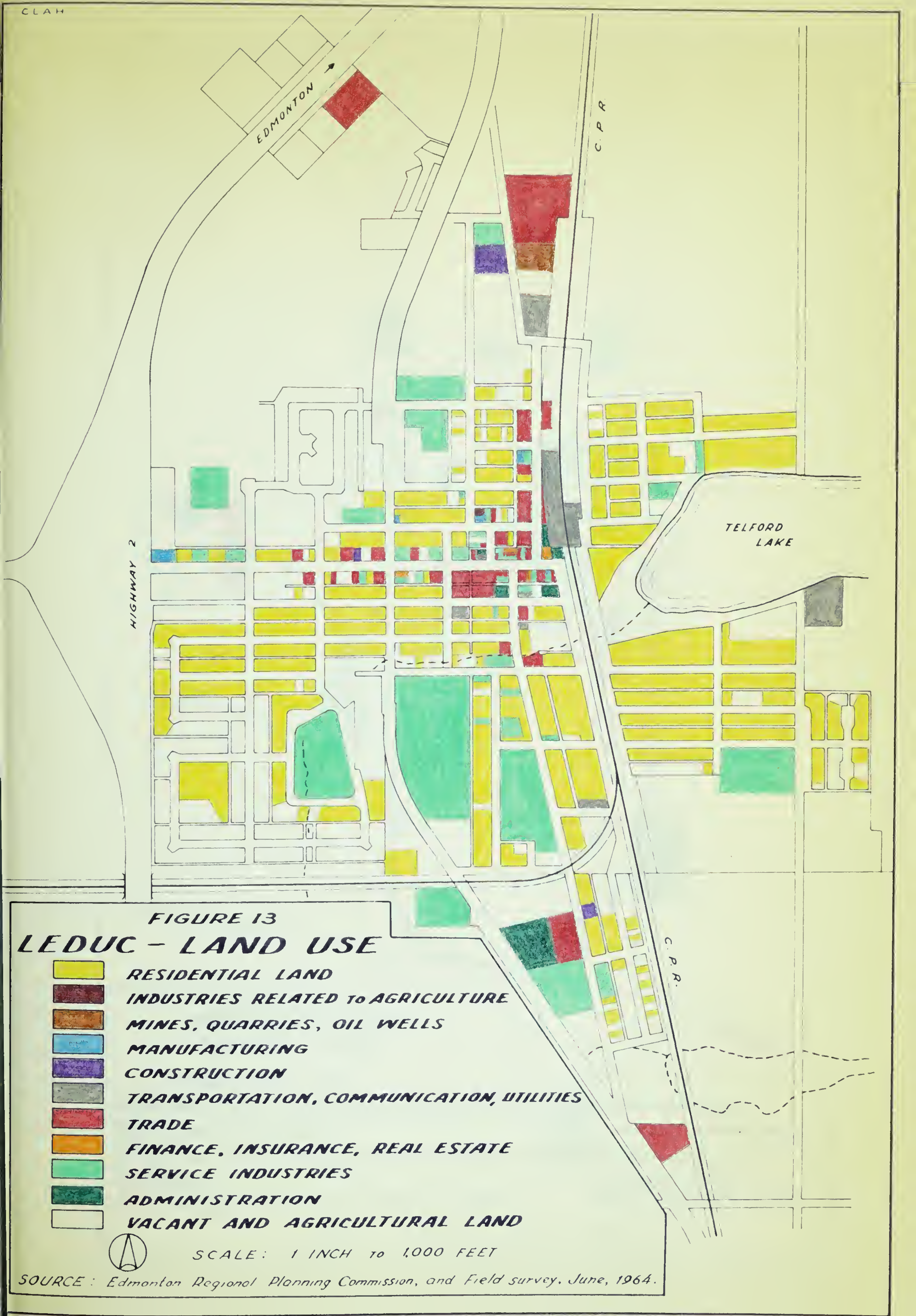
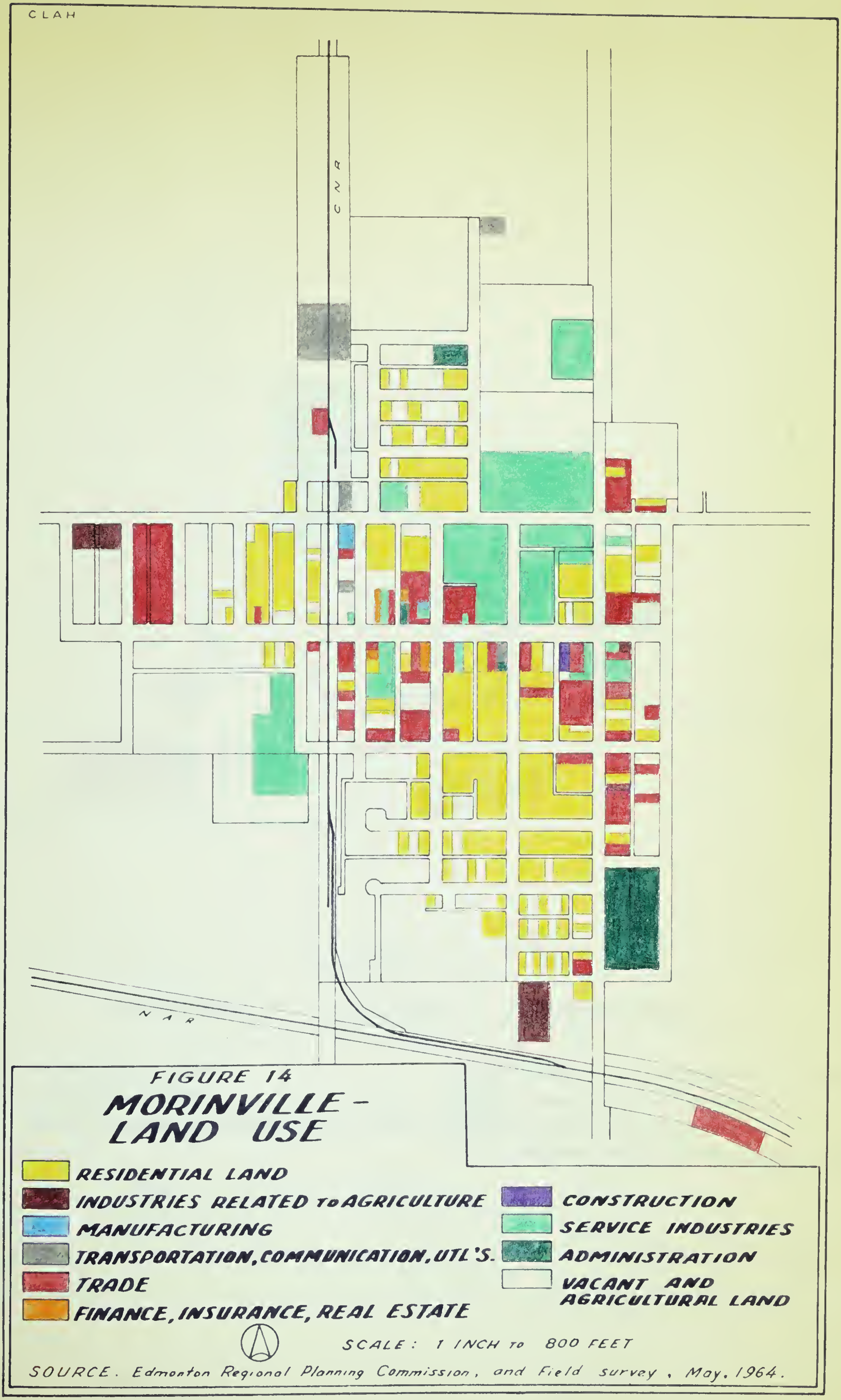

CLAH
EDMONTON
C.P.R.
TELFORD LAKE
HIGHWAY 2
C.P.R.
RESIDENTIAL LAND
INDUSTRIES RELATED TO AGRICULTURE
MINES, QUARRIES, OIL WELLS
MANUFACTURING
CONSTRUCTION
TRANSPORTATION, COMMUNICATION, UTILITIES
TRADE
FINANCE, INSURANCE, REAL ESTATE
SERVICE INDUSTRIES
ADMINISTRATION
VACANT AND AGRICULTURAL LAND
SCALE: 1 INCH TO 1,000 FEET

FIGURE 13

LEDUC – LAND USE

SOURCE: Edmonton Regional Planning Commission, and Field survey. June, 1964.


CLAH
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INDUSTRIES RELATED TO AGRICULTURE
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TRANSPORTATION, COMMUNICATION, UTL'S.
TRADE
FINANCE, INSURANCE, REAL ESTATE
CONSTRUCTION
SERVICE INDUSTRIES
ADMINISTRATION
VACANT AND AGRICULTURAL LAND
SCALE: 1 INCH TO 800 FEET

FIGURE 14

MORINVILLE - LAND USE

SOURCE. Edmonton Regional Planning Commission, and Field survey, May. 1964.

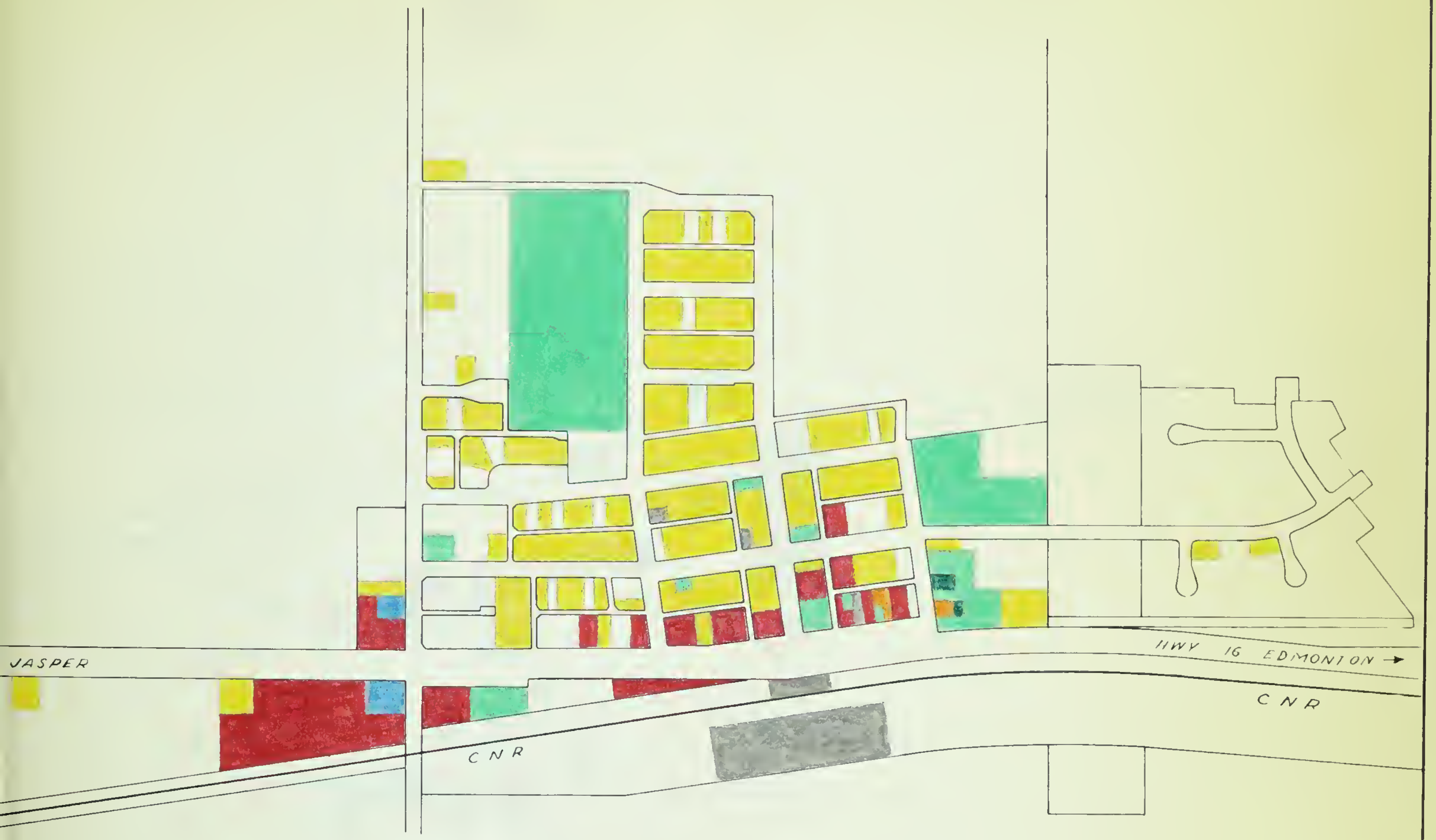

FIGURE 15

SPRUCE GROVE - LAND USE

🟨 RESIDENTIAL LAND
🟦 MANUFACTURING
⬜ TRANSPORTATION, COMMUNICATION, UTILITIES
🟥 TRADE
🟧 FINANCE, INSURANCE, REAL ESTATE
🟩 SERVICE INDUSTRIES
🟩 ADMINISTRATION
☐ VACANT AND AGRICULTURAL LAND

SCALE: 1 INCH to 800 FEET

SOURCE: Edmonton Regional Planning Commission, and Field survey, June, 1964.

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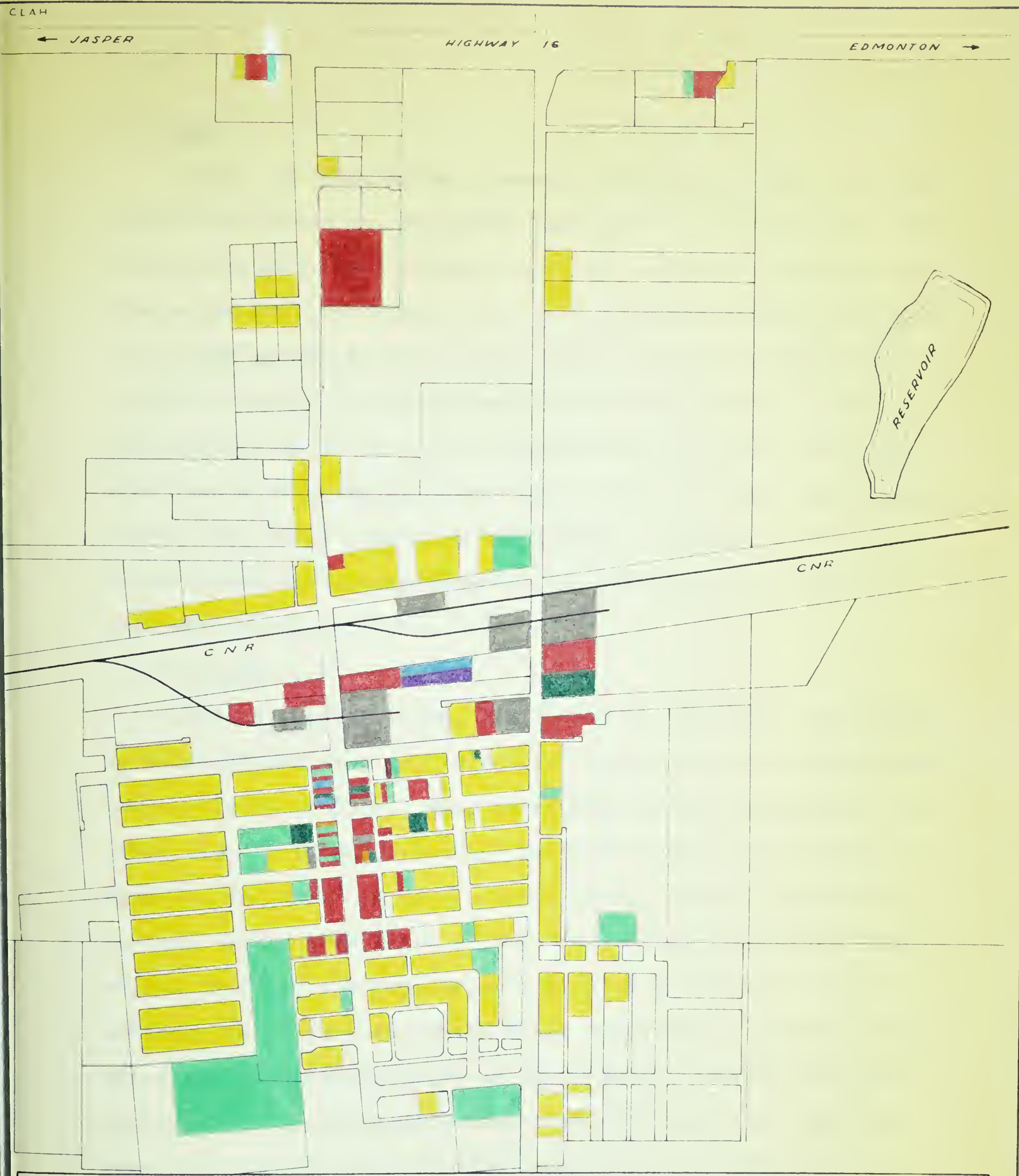

FIGURE 16

STONY PLAIN - LAND USE

- 🟨 RESIDENTIAL LAND
- 🟫 INDUSTRIES RELATED TO AGRICULTURE
- 🟦 MANUFACTURING
- ⬜ TRANSPORTATION, COMMUNICATION, UTILITIES
- 🟥 TRADE
- 🟧 FINANCE, INSURANCE, REAL ESTATE
- 🟪 CONSTRUCTION
- 🟩 SERVICE INDUSTRIES
- 🟩 ADMINISTRATION
- ☐ VACANT AND AGRICULTURAL LAND

SCALE 1 INCH TO 800 FEET

Sources: Edmonton Regional Planning Commission, and Field survey, May, 1964.

B. TRADE

Trade, the dominating economic influence in each town, is clearly reflected in the number and extent of retail sales and service outlets. The average ratio of trading floor space to population is 7,096 square feet per 100 persons which contrasts with 1,668 square feet in other towns. Characteristically the trading function is not primarily directed inward to local urban markets, as it is in the residential satellites, but outward into a surrounding trade area. The character and population of the trade area thus has a marked effect on the nature of the facilities established in the towns and the functions performed there.

(i) Ratios

Leduc's trading ratio, the lowest of the four, has recently been reduced as a result of the construction of the Edmonton International Airport. Many personnel formerly employed at an older airport in Edmonton have moved to Leduc but continue to shop in the city.[1] A new shopping centre, under construction in 1964, will raise Leduc's ratio considerably from the 4,037 square feet per 100 population indicated in Table 7; it is nevertheless likely to remain lower than those ratios in towns which are more dominated by an agricultural service function. Morinville is considerably more oriented toward its agricultural service function than is Leduc, and its floor space

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1. Pers. comm., Mr. W. A. Bell, Secretary, Town of Leduc, August 1963.

ratio in the trading category is correspondingly higher. While it has 35 per cent of the amount of Leduc's population, it has 65 per cent of the amount of trading floor space. Spruce Grove's trading function has the town's highest ratio, exceeding even that of the service industries; trading involves almost 45 per cent of the non-residential floor space, the highest proportion in any of the towns (Table 5). Stony Plain, however, is the trading town *par excellence*; its trade ratio is highest of all, and more than double the average. One-third of its non-residential floor space is occupied by trading facilities, a smaller proportion than in Spruce Grove where functions are fewer, but well above the average of 22.9 per cent.

(ii) *Facilities*

The types of trading establishments in the four towns are typical agricultural service facilities; in addition to grocery, hardware, lumber, oil and gasoline outlets, there are numerous agricultural machinery and general farm supply dealers. Several of these are organized as co-operative enterprises which occur quite frequently in connection with agricultural service; they are particularly conspicuous in Morinville and Stony Plain and account for large portions of the towns' trading floor space. The agricultural service function involves many other establishments such as grain elevators, dairies, livestock buying stations, veterinary clinics, hatcheries, egg grading stations, and feed mills. These facilities, however, are classed in other categories and are treated in sub-

sequent sections of this chapter.

(iii) Trade Areas

By nature, the agricultural service function and the facilities involved strongly reflect the character of the areas served. This reflection is readily observable in the study area, where dairying - in response to the city's demand for fluid milk - and mixed farming are the principal agricultural activities. Leduc's primary trade area (Figure 7), extends over approximately 175 square miles,[2] and supports a population of approximately 2,000 persons.[3] Morinville's primary trade area is approximately 100 square miles in extent,[4] and supports a population approximately equal to that of the town itself.[5] Spruce Grove's primary trade area, much elongated in a north-south direction,[6] is greatly influenced in shape by Edmonton and by established transportation patterns. It supports a population of approximately 1,000,[7] which numerically speaking is not much greater than that of the town, but is considerably larger in a proportional sense. In Stony Plain, as suggested

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[2] Source: Office of the Town Secretary, Leduc, Alberta, November 1964.

[3] Canada, Dominion Bureau of Statistics, 1961 Census of Canada - Population, Ottawa, 1962.

[4] Source: Edmonton Regional Planning Commission.

[5] Census of Canada, op.cit.

[6] Source: Office of the Town Secretary, Spruce Grove, Alberta, September 1964.

[7] Census of Canada, op.cit.

by the high trade ratio, there is a great deal of functional dependence on a trade area; in fact, Stony Plain's is the largest trade area of all. It covers approximately 300 square miles,[8] and has a population of approximately 2,500.[9] For each person residing in the town, then, two are resident in the trade area. The trade area populations are thus important in the maintenance of trading facilities much in excess of those required to serve only the towns themselves.

(iv) Edmonton Competition

Although the towns and their trade areas are closely interrelated in an economic sense, Edmonton is an important supplier of goods and services to each.[10] Most of the towns' retail businesses notice effective competition from Edmonton, where their major supply of wholesale goods is also obtained.[11] It has been suggested that local merchants are required to price their goods at the same level as, or only slightly above, Edmonton prices because of the average purchaser's mobility, despite his transportation costs.[12] As a result of the competitive influ-

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[8] Source: Office of the Town Secretary, Stony Plain, Alberta, November 1964.

[9] Census of Canada, op.cit.

[10] One business, for example, estimated by its own survey that 40 per cent of the food-stuffs sold in Leduc's trading area is purchased in Edmonton. Mr. G. A. Madiuk, Manager, Leduc Service Store, Leduc, Alberta, March 1964.

[11] See Tables 10 - 12.

[12] Pers. comm., Mr. P. Chalifoux, Manager, Morinville Drug Store, Morinville, Alberta, February 1964. It was also suggested that Edmonton competition "sharpens up" local businessmen.

ences, none of the towns supports many specialty stores; those that do exist are small and unpretentious. There are very few commercial counter-currents to the prevailing centralizing effects emanating from the city; most small town business can expect competition rather than patronage.[13]

Summary. In all four towns the trade function is primarily oriented toward a trade area, the agricultural character of which strongly influences the towns' functional structure. In Leduc, however, the agricultural service function is becoming relatively less important as population grows and the town develops a more residential character. The distinguishing characteristic and major function of all four towns, the servicing of trade areas, is shared to a considerable degree by the City of Edmonton, as demonstrated by direct competition experienced by most of the local businessmen.

C. ALLIED FUNCTIONS

(i) Agriculture

The major function performed by the towns' retail trade, agricultural service, is complemented by other agriculturally oriented facilities such as animal clinics, hatcheries, and egg grading stations. As in other towns, however, the "Agricultural" function *per se* is minor and the floor space ratios are correspondingly low, except for Morinville where the ratio is much inflated by a large mink farm.

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[13] In Spruce Grove, however, a pleasure boat dealer makes 80 per cent of his sales to Edmontonians (see Appendix 2).

(ii) Transportation, Communication and Other Utilities

In another reflection of their function as agricultural service centres, all four of the trading towns have higher than average ratios in this category. Grain elevators serve as a useful indicator; all four towns are centres for the handling, storage and transportation of grain, and their capacity accounts for 77 per cent of total grain elevator capacity in all eight towns (see Table 6).

Edmonton's influence is particularly significant in this general category as some of the towns' utilities are integrated with Edmonton's. Leduc, for example, obtains its water supply by pipe line from the city system, and Spruce Grove's telephone network is integrated with Edmonton's. Further, although all four towns are served by rail, most wholesale goods are delivered to them by truck. Edmonton truckers are frequently involved; thus the city assumes part of the towns' transportation function. As an illustration: in Leduc, thirteen firms of twenty replying to a questionnaire on transportation stated that at least some of their wholesale goods bought in the city is delivered by Edmonton truckers. In Spruce Grove, of seven businesses reporting, two indicated that Edmonton truckers deliver 100 per cent of the wholesale goods bought in the city, one reported 70 per cent, and one, 10 per cent, resulting in an average proportion of 40 per cent. In other towns, there is a greater proportional use of local trucking facilities.[14]

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[14] See Table 12.

(iii) Manufacturing

Typical manufacturing industries in the trading towns involve the production of various food stuffs, farm animal feeds, printed matter, building materials, small machine parts, and furniture. Production is almost entirely for local requirements, in contrast to the situation in Fort Saskatchewan where most production is geared to national and international markets. Excluding Fort Saskatchewan, the average manufacturing ratio is 533 square feet per 100 population, a figure exceeded by all trading towns except Leduc where the ratio has been reduced by recent population growth. Morinville's ratio is raised above average primarily by a feed mill and three machine shops, facilities which reinforce the town's agricultural service function, while Spruce Grove's ratio is raised considerably by another large feed mill. Although Stony Plain's ratio is lower than both Spruce Grove's and Morinville's, it involves the most diversified manufacturing industry of any of the trading towns and includes all the activities listed above. The manufacturing industry of all four towns although minor in comparison to Fort Saskatchewan's, significantly reinforces the agricultural service function.

D. OTHER FUNCTIONS

(i) Mines, Quarries and Oil Wells

Leduc, the only trading town having facilities in this category,[15] has offices of several oil and gas companies, and

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[15] Although other trading towns have facilities based on the

serves as a base of operations for three oil field service firms and an oil well drilling company. Leduc's facilities, though significant, do not approach the importance of Devon's, however, despite widespread optimism in the early 1950's concerning Leduc's future as an oil centre. Facilities which might have been established in Leduc went to Devon because of its more central situation in the oil field, while others went to Edmonton as the city is the obvious hub of regional transportation and is thus better able to satisfy the requirements of a highly mobile industry.

(ii) Construction

There are varying degrees of construction activity in the trading towns. Leduc with its increasing population is the most active of the four, ranking third in total construction floor space after Devon and Saint Albert. It has expanded actively since about 1958 though at a much slower rate than Saint Albert.[16] Expansion of the construction industry to meet demands for housing involved the establishment of several new contracting firms in Leduc, some of which are based in Edmonton; as a result the city is involved in the town's construc-

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petroleum industry, the facilities were classed in other categories. Thus, for example, an oil field ditching concern in Morinville was classed with "Construction" while the oil pipe line company facilities in Stony Plain were classed with "Transportation, Communications and Other Utilities".

16. Town expansion is indicated in Table 6 which lists the value of building permits issued annually.

tion function.[17]

As a town active in oil field construction, Leduc takes second place to Devon. The combined floor space of Leduc's oil field earth moving business and two pipe line construction companies is not as extensive as that of the same types of operations in Devon, and Leduc's greater population combines to give the town a much lower floor space ratio.

Morinville's rate of expansion has been much slower than that of most of the towns. Population has been essentially static and the town's construction industry correspondingly inactive.

Spruce Grove's construction ratio is the highest of all four trading towns although only three small businesses are involved. Despite the low total value of residential construction, the town has been actively expanding in a proportional sense.[18]

In Stony Plain, much construction business is closely involved with trading establishments such as lumber yards and general building supply dealers. Although the per capita value of residential construction during the period 1961

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[17] Local contractors report that Edmonton-based construction firms frequently sub-contract to other city businesses and leave the local workers out. Pers. comm., Robert Martin, Plaster and Stucco Contractor, Leduc, Alberta, February 1964.

[18] The total value of new construction per 100 persons was $107,000 in Spruce Grove during the period 1961 through 1963, while the average total value for the three other trading towns was $90,000 during the same period.

through 1963 was nearly as high as in Spruce Grove, town records indicate a relative scarcity of construction floor space.

(iii) Finance, Insurance and Real Estate

Typical facilities in this category include chartered bank branches, credit unions, and general insurance and real estate offices, while Stony Plain also has an Alberta Government Treasury Branch. The facilities are firmly established; nevertheless many local businesses make use of Edmonton facilities (see Table 10).

(iv) The Service Industries - Community, Business and Personal

The service industries occupy the largest single category of functional floor space in all the trading towns except Spruce Grove. Without exception, "community services" as opposed to "business and personal services" account for most of the category. Leduc's floor space is increased considerably by large centralized schools, a new hospital and senior citizens' home. Morinville's ratio, higher than Leduc's, is raised substantially by a convent boarding school. (It is interesting to note that both Saint Albert and Morinville, towns with a large element of French-Canadian population, have large religious institutions which greatly influence floor space ratios.) Spruce Grove's ratio, the lowest of the trading town group, is reduced by a lack of some of the more extensive facilities. The town's community services include only churches, a curling rink and a relatively small school. Stony Plain's group of service industries is particularly large and gives the town the high-

est ratio of all, nearly double the average of the eight towns. Despite its much smaller population, Stony Plain has nearly as much total floor space in this category as Leduc or Fort Saskatchewan. Much of it is accounted for by large centralized schools, a new hospital, and senior citizens' home, all of which are facilities performing regional as well as local functions.

The service industries consist of varying proportions of commercial and public functions - in Leduc, 13 per cent of the service industries floor space is occupied by commercial interests; in Morinville the proportion is 15 per cent while in Spruce Grove and Stony Plain the respective amounts are 39 per cent and 11 per cent.

This commercial portion of the category is particularly influenced by Edmonton, as many businesses in the towns make use of city services rather than local ones (see Table 10). Not all the business services listed in the table are available in each town. For example, while Spruce Grove has an accounting service, local firms must turn elsewhere for other business services; and in Stony Plain, in the absence of a local accountant, fourteen of eighteen businesses turn to Edmonton. However, a significant number of local firms rely on Edmonton for business services despite local availability.

(v) Public Administration and Defence

There are considerable differences among towns in terms of the facilities occupied by functions in this cate-

gory. Three of the trading towns, Leduc, Morinville, and Stony Plain, are centres of government for surrounding counties or municipal districts, a function which greatly reinforces their centrality, as the political areas involved are much more extensive than the trading areas. The significance of the county and municipal establishments is reflected directly in floor space ratios. In Leduc, the offices of the Municipal District of Leduc contribute nearly 70 per cent of the floor space in the category. Morinville is the centre of administration for the County of Sturgeon River, a function which lends the town an office building comparable in size to the one occupied by the Municipal District of Leduc. With a population one-third the size of Leduc's, the resultant ratio is three times as high. Spruce Grove's administrative floor space is limited to a town office and fire hall; as a result the low ratio exceeds only those of the residential satellites. In Stony Plain, centre of administration for the Municipal District of Stony Plain, the ratio is much higher. Although the facilities operated by the Municipal District of Stony Plain are less extensive than those operated by governments in Leduc and Morinville, other facilities in Stony Plain are more numerous.[19] In short, the trading towns with one exception rank relatively high in the "Public Administration" category because of

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[19] The remaining facilities in the category include a town office, a health unit, a court room, an office of the provincial government's Department of Agriculture, fire and police stations and facilities for the maintenance of public equipment.

their function as centres of municipal government.

E. SUMMARY

Although all four towns have various significant functions, the characteristic and dominant function in each is trade, the basic component of a comprehensive agricultural service role. Many of the facilities involved in agricultural service are classed in categories other than "Trade", notably "Agriculture","Manufacturing", and "Transportation, Communication and Other Utilities". Like the "Trade" function these allied categories are associated not only with the requirements of the towns themselves, but also with the towns' trade areas. Other functions, notably those performed by centralized schools and municipal government offices, augment the towns' centrality.

In most of the functional categories discussed, there are strong interrelations, not only between towns and trade areas, but between each of these and the City of Edmonton. The city is the traditional source of most regional wholesale supplies, but it also acts as a regional service centre supplying many specialized services not locally available. In many cases, notably in the retail business, truck transportation and the supply of business services, the city acts as a direct competitor and in that capacity has a reducing effect on local economies by assuming the supply of goods and services that could otherwise be undertaken locally with relative ease. There are few countering influences to this general trend;

one, however, is the summer-time movement of Edmontonians towards numerous lakes west of the city, which has resulted in the establishment of a successful pleasure boat dealer in Spruce Grove.

Metropolitan expansion is having diverse effects on the trading towns. As yet, however, Morinville and Stony Plain remain little affected in comparison to Leduc and Spruce Grove. In a limited sense, Leduc may now be considered a residential adjunct of Edmonton since many of the town's residents are employed at the airport which was constructed to serve the city's requirements. As the town's population increases, the agricultural service function becomes relatively less important. Spruce Grove is still firmly centred on its agricultural service function but its population is growing as people employed in Edmonton have begun to move to the town. Continuing decentralization of population from Edmonton will likely maintain the trend toward de-emphasis of the agricultural service function, as has occurred already in Saint Albert, Fort Saskatchewan and Leduc. A further stage in the process may well involve decentralization of business and industry to improve the towns' self-sufficiency; this, however, will probably require deliberate enforcement of planning policy in order to counter Edmonton's strong centralizing influences.

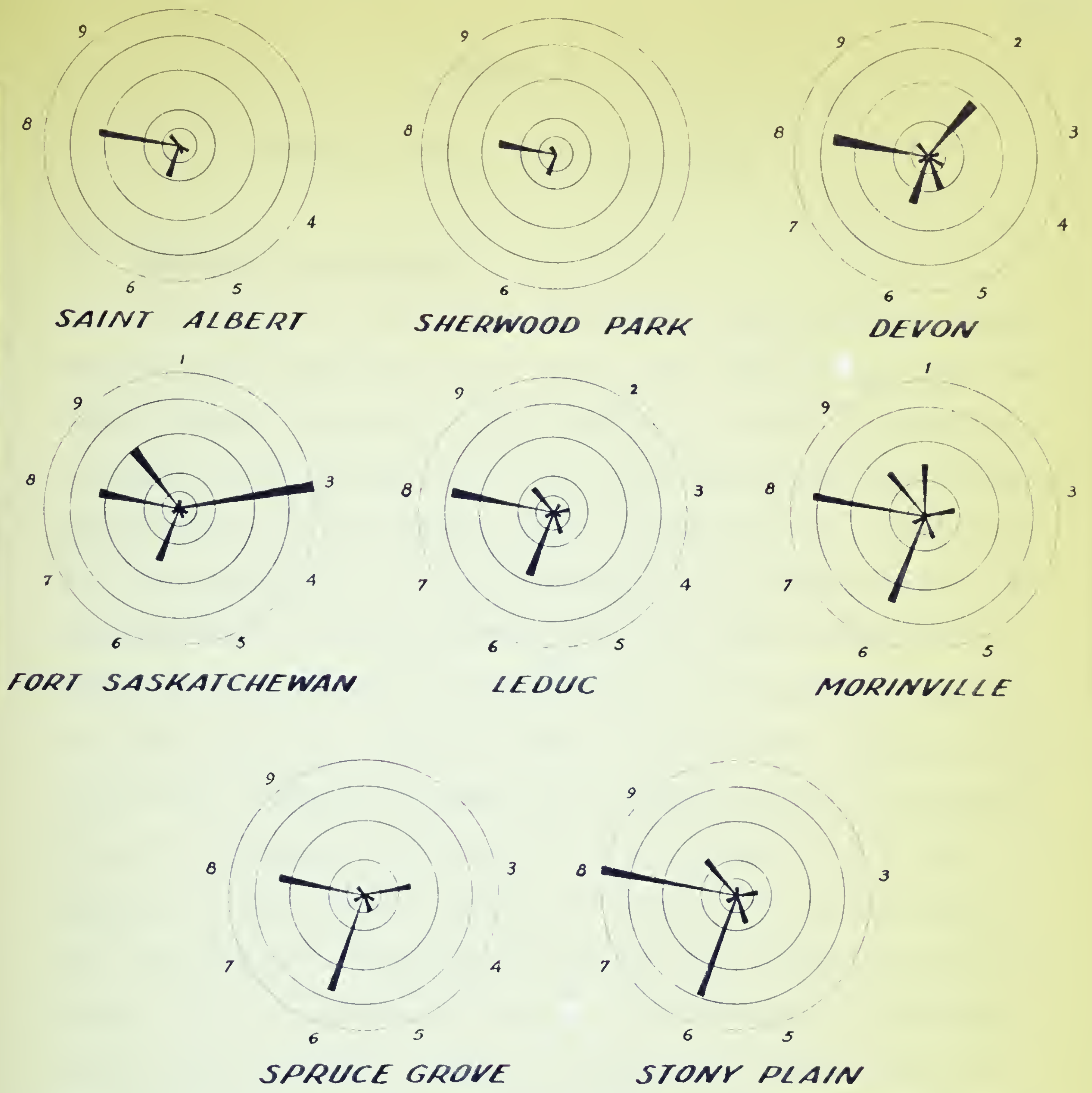
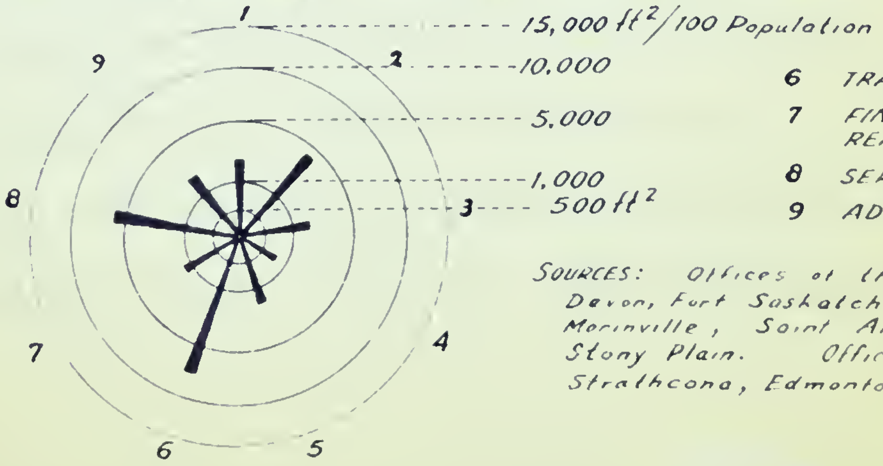


FIGURE 17

TOWN FUNCTIONS

EXPRESSED IN FLOOR SPACE RATIOS



1 INDUSTRIES ASSOCIATED WITH AGRICULTURE
2 MINES, QUARRIES, OIL WELLS
3 MANUFACTURING
4 CONSTRUCTION
5 TRANSPORTATION, COMMUNICATION AND OTHER UTILITIES
6 TRADE
7 FINANCE, INSURANCE AND REAL ESTATE
8 SERVICE INDUSTRIES
9 ADMINISTRATION

SOURCES: Offices of the Town Secretary in Devon, Fort Saskatchewan, Leduc, Morinville, Saint Albert. Spruce Grove, and Stony Plain. Offices of the County of Strathcona, Edmonton.

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CHAPTER 7

GENERAL SUMMARY AND CONCLUSIONS

A. EDMONTON'S INFLUENCES

Edmonton is a political, marketing, distribution, transportation and service centre for an area much larger than the study region. Situated at the centre of a well established transportation network, the city has a major economic influence particularly in the immediately surrounding area. The process of centralization has clearly favored its growth over that of near-by towns and continues to do so with some exceptions in those residential satellites developed in response to metropolitan expansion. Even in these, however, the commercial and industrial dominance of Edmonton is almost entirely retained, as most of the working population is employed in the city. Edmonton's function as a centre of supply for various goods and services is strongly reflected in many economic ties between city and neighboring towns. The strength of the ties varies from virtually complete integration, in the case of Sherwood Park, to near self-sufficiency in Stony Plain and Morinville where the main effects are expressed in retail competition and the supply of business services.

Since demand for certain goods and services is relatively small in many of the towns, while there is a ready supply from Edmonton, the towns are served and supplied in several respects directly from the city. The functions most directly

affected appear to be retail trade, transportation and the supply of business services. Despite growth of the towns and the establishment of new local facilities, the Edmonton suppliers continue to be competitive. Consequently, proximity to the city has an inhibiting effect on the establishment and expansion of local commercial facilities and constitutes a genuine problem for many small town businessmen. Apparently then, none of the towns is completely self-sufficient; each is dependent on the city in some respect, and to this extent, each may be considered a satellite, however limited the application of the term might be. It is equally apparent, however, that the term is much less applicable to some towns than to others.

The primary function of most of the small town businesses is to supply goods and services to purely local populations, either in the towns themselves or in adjacent trade areas. Few of the businesses are oriented to Edmonton markets; instead of serving the city, most are served by the city. The two obvious exceptions are the gas conservation plant in Devon and the pleasure boat dealer in Spruce Grove. Other establishments, notably the manufacturing industries in Fort Saskatchewan and a new factory in Saint Albert, are oriented toward Western Canadian, national and international markets rather than toward Edmonton; thus, in these respects, the city has stimulated little activity in neighboring towns.

In other respects, however, the city has generated great activity in the neighboring towns, notably through metropoli-

tan expansion which was triggered by regional oil and gas development beginning in 1947. The immediate consequences of the development involved the founding of the new town of Devon as an oil field service centre and led to rapid growth of population and industry in Edmonton; a few years later natural gas reserves were instrumental in the establishment of large industries in Fort Saskatchewan. Urban development spread beyond the city's corporate boundaries and initiated the development of two new residential satellites, Saint Albert and Sherwood Park, while two older satellites, Beverly and Jasper Place, were amalgamated with the expanding city. In Saint Albert, the function of "residential satellite" was superimposed on previously existing agricultural service and religious functions. In similar fashion, manufacturing was superimposed on an earlier agricultural service function in Fort Saskatchewan. More recently, Leduc has felt the effects of metropolitan expansion through residential agglomeration resulting from airport development. Widespread diversification of the regional economic base has resulted in a significant decrease in the relative importance of the agricultural service function in the latter three towns. Spruce Grove has also begun to be affected, largely through increased commuting from Edmonton. Only Stony Plain and Morinville remain comparatively unaffected and continue in their original primary functions as service centres with a strong agricultural orientation.

The trade areas dominated by the towns are much affected

in shape and extent by the city. They are restricted in extent, particularly in their portions nearest Edmonton where the city's accessibility by main highways is easiest; consequently they are generally more extensive in their portions most distant from the city, with the result that their "central towns" are, in fact, decidely off-centre (see Figure 7). Proximity to the city also reduces the intensity of the towns' domination over their trade areas, as many residents make frequent use of the city's facilities, particularly in multi-purpose shopping trips.

A point emphasized in the smaller trade areas of the new towns is that they are at a comparative disadvantage with older towns in the establishment of a regional commercial dominance. They have been established at a time when automobiles are numerous and the resultant mobility of population encourages the patronage of previously existing, well established facilities, many of which continue to function partially because of inertia.

B. FUNCTIONAL DIFFERENTIATION OF TOWNS

With the use of floor space data expressed as ratios in relation to population, it was possible to indicate clearly the general patterns of urban composition and to differentiate the study towns on a functional basis. There are certain qualifications with respect to the method's application, however, as it is not inherently applicable to direct comparisons of all functions within a single town; its purpose lies

instead in the comparison of towns rather than in comparison of individual functions per se.

The primary functions of most of the study towns are discernable without the supplementary aid of statistics. With the use of some statistical measure, such as floor space, however, the degree of dominance of the primary functions becomes clearer, and many functional interrelations are made more apparent. For example, in a comparison of the trading ratios, an indication is given of the relative significance of the "Trade" category and of its degree of dominance in each town. Further, when other categories such as "Agriculture", "Manufacturing", and "Transportation, etc.", are examined, their functional interrelations with "Trade" are evident and it becomes apparent that several categories of activity contribute to the performance of a more comprehensive function - agricultural service.

Similarly, the singular functional character of the residential satellites is indicated by low ratios in all categories, and is further affirmed by a low overall ratio coupled with the fact that the highest ratios, by far, occur in the "Service Industries" category. Although other towns have higher service industry ratios, smaller proportions of their non-residential floor space fall in this category. The low ratios indicate that commercial development in these towns has proceeded at a much slower pace than residential expansion. Although Saint Albert is much more active than Sher-

wood Park in several functional categories (such as "Manufacturing", "Construction", Transportation, etc.", and "Trade") both towns are closely integrated with Edmonton in an economic sense, and function essentially as sub-divisions of the city.

Devon was established as an oil centre and continues to be the only town in the study group dominated by the oil and gas industry. As reflected in the high ratio in the "Mines, Quarries and Oil Wells" category, there is more floor space occupied by the oil and gas industry in Devon than in the seven other towns combined. Devon's primary function, and its only function as a regional service centre, is expressed almost entirely in this category and the closely associated categories of "Construction" and "Transportation, Communication and Other Utilities". Both of the latter functional groups involve oil field servicing and extend the town's range of activities as an oil field service centre.

In Fort Saskatchewan, there is a heavy emphasis on manufacturing activities. The industries involved occupy more than one-half of the town's non-residential floor space and employ most of the working population. In other centres, such as Devon and the four trading towns, the dominating function is carried through several closely associated functional categories, but in Fort Saskatchewan the dominant manufacturing function operates almost independently; its effects on the other functional categories are only indirectly felt. There are several reasons for this: the industries are geared pri-

marily to national and international markets; raw materials and finished products are transported primarily by rail and little use is made of any transportation facilities based in Fort Saskatchewan; the town's industrial construction, a sporadic activity at best, has been handled by large firms based in Edmonton and other cities; and, finally, none of the large industries makes extensive use of local professional services. As a result, the effects of the manufacturing function are expressed in other functional categories only through the added facilities such as schools, retail stores, repair shops and personal service establishments required to serve an expanded population. The activities thus affected most widely are housing construction and the retail trade. Effects on the construction industry are expressed primarily in the existence of two new residential subdivisions which have trebled the town's housing accommodation since 1950. The increase in retail sales is not so marked; from 1953 to 1961 the total value of sales increased by only 64 per cent despite a population increase of 120 per cent.

The manufacturing function in Fort Saskatchewan largely masks the significance of a function established much earlier and best described as "agricultural service". This function, existing primarily to serve a surrounding trade area, is based largely on the retail trade, but extends somewhat into the "Agriculture" and "Transportation, etc." categories. The town's third significant function, involving the facili-

ties of a penal institution, is aptly described as more "passive" than the two other functions since the jail makes virtually no direct use of local commercial establishments.

The primary function of the trading towns is agricultural service. As in Fort Saskatchewan, the function is most active through the retail trade but extends into other functional categories, particularly "Agriculture", "Manufacturing", and "Transportation, Communication and Other Utilities". The trade areas served by the four towns vary considerably in size. Those of Spruce Grove and Morinville are the smallest, reflecting comparatively limited ranges of service functions in their respective central towns. Stony Plain's trade area is largest while Leduc's is intermediate in size although the latter town has a greater number of service facilities. Leduc's recently expanded population, largely resulting from the new airport, has lowered floor space ratios and decreased the town's dependence on its agricultural service function. Of all towns in the study group, Stony Plain is probably closest to economic self-sufficiency. The lack of towns of similar size and function near Stony Plain, particularly to the west, enables that town to extend service functions over a particularly large area. Though complemented by other functions such as medical services, administration and education, Stony Plain's agricultural service function continues to be the town's main economic influence, if not its raison d'etre.

C. CONCLUDING STATEMENT

In conclusion, there have been extensive changes in the functional compositions of the study towns during the last fifteen years. Accelerated regional development has generated two new towns, Devon and Sherwood Park, and has produced complete changes in the dominant functions of others. There are now four distinct types of towns in the study region, in each of which a specific function dominates. One group, the residential satellites, owes its status to increased peripheral growth of Edmonton, which in Saint Albert has over-ridden the earlier dominant agricultural service and religious functions. Fort Saskatchewan's new manufacturing function has also replaced agricultural service as the main economic activity, and the new oil town of Devon owes its very existence to the regional economic development which stimulated the metropolitan expansion process. Spruce Grove and Leduc, though part of the fourth group - trading towns - are also being affected by metropolitan expansion; together with Stony Plain and Morinville, however, they retain their original dominant agricultural service function.

The foregoing analysis of urban functions, though not intended to be exhaustive, constitutes the central theme of this thesis; it is based largely on the use of ratios of floor space to population, and is submitted in support of the hypothesis that urban centres can be classified according to the method herein employed.

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APPENDIX 1

LIST OF ESTABLISHMENTS BY CATEGORY IN EACH TOWN

DEVON

Mines, Quarries, Oil Wells

Oil company office building
Gas conservation plant
Oil field services (7)

Manufacturing

Bakery
Ornamental iron works

Construction

General contracting (2)
Pipe line & oil field contracting

Transportation, Communications & Other Utilities

Tank trucking
Oil field hauling
General trucking
Pipe line company
Telephone company
Post office
Water treatment
Sewage treatment

Trade

Lumber
Sand and gravel
Meat market
Confectionery
Groceries (3)
Bakery
Auto sales
Garages & service stations (3)
Men's wear
Shoe shop
Hardware and dry goods
Drug store

Finance, Insurance & Real Estate

Bank
Investment firm
Real estate (plus bookkeeping)

Service Industries; Community, Business, Personal

Schools (3)
Library
Hospital
Nurse's residence
Churches (5)
Theatre
Pool hall
Golf club
Curling rink
Swimming pool
Barber & beauty shop
Hotel
Cafe
Legion hall

Public Administration & Defence

Oil and Gas Conservation Board
Town office
Police station
Fire hall
Town maintenance garage

FORT SASKATCHEWAN

Agriculture

Veterinarians (3)
Egg grading plant

Manufacturing

Bakery
Tire re-capping shop
Printing
Machine works
Ready-mix concrete
Nickel & fertilizer production
Fibre glass factory
Chemical manufacturers (2)

Construction

Building contractors (2)
Electrical contractor
Plumbing
Plastering

Transportation, Communications & Other Utilities

Pipe line companies (2)
Railway depot
Trucking (2)
Grain elevators (233,000 bu.)
Cold storage lockers
Telephone exchange
Post office
Electric power distributor
Water pump house

Trade

Bulk petroleum sales (2)
Farm equipment & supplies (3)
Lumber yards (2)
Sand and gravel dealers (2)
Flour and feed dealer
Grocery stores (4)
Confectionery
Bakery
Variety store
Tire shop
Service stations (5)
Garages (3)
Auto body shop
Shoes
Clothing (4)
Hardware (2)
Radio & TV sales & service (2)
Radio, TV & appliances (2)
China shop
Drug stores (2)
Liquor vendor
Gift shop
Sporting goods
Second-hand shop

Finance, Insurance & Real Estate

Banks (2)
Trust company
Real estate & insurance

Service Industries; Community, Business & Personal

Schools (6) (Public and separate)
Business school
Doctors' offices (2)
Dentists (2)
Chiropractor
Lodge for old people
Churches (6)
Pool hall
Skating rink
Curling rink
Swimming pool
Recreation club
Community hall
Tennis club
Lawyer
Accountant
Beauty parlors (2)
Barbers (3)
Dry cleaner
Cafes (3)
Drive-in snack bar
Hotels (2)
Motel
Trailer court
Chemical workers' union building

Welding (4)
Bottle depot
Legion hall
Masonic hall

Public Administration & Defence

Veteran's Land Act office
Provincial jail
Town office
Town machine shed
Miscellaneous town-owned buildings

LEDUC

Agriculture

Egg grading
Veterinarians (2)

Mines, Quarries & Oil Wells

Oil well drilling
Oil field service companies(3)
Oil company offices
Coal company office

Manufacturing

Dairy pool & creamery
Feed mill
Bakery
Printing
Ready-mix concrete

Construction

General contractors (4)
Building contractor
Plumbing & heating (3)
Plastering contractor
Earth moving & excavating (2)

Transportation, Communication & Other Utilities

Railway depot
Trucking (3)
Taxi firm
Bus depot
Pipe line company office
Grain elevators (243,000 bu.)
Cold storage lockers
Telephone exchange
Post office
Natural gas distribution
Electrical power distribution
Sewage treatment

Trade

Bulk petroleum distributors(4)
Poultry marketer
Flour warehouse
Farm implement dealers (7)
Lumber yards (2)
Mobile feed service
Fertilizer
Seed cleaning
Meat & Butcher shops (3)
Bakery
General stores (5)
Tire shop
Auto wreckers (2)
Auto sales (5)
Garages & service stations (12)
Auto body shops (3)
Shoe shop
Clothing stores (2)
Hardware stores (3)
Furniture store & TV shop
Drug stores (2)
Florist
Jewellery
Liquor vendor
Auction mart

Finance, Insurance & Real Estate

Banks (2)
Insurance & real estate (3)

Service Industries; Community, Business & Personal

Schools (6)
Hospital
Nurse's residence
Doctors' offices (3)
Dentist

Senior citizens' home
Churches (9)
Church hall
Movie theatre
Pool hall
Accountant
Law offices (3)
Sign painter
Barbers & beauty shops (4)
Dry cleaner
Coin laundry
Restaurants (5)
Hotel
Motels (2)
Trailer courts (2)
Drive-in snack bar
Funeral director
Photographer
Welding & blacksmithing (4)
Exhibition buildings
Elks hall
Legion hall
Boy Scout hall

Public Administration & Defence

Department of Highways office
Town office
Police station
Fire hall
Offices of M.D. of Leduc

MORINVILLE

Agriculture

Mink farm
Egg grading
Hatchery & chicken house

Manufacturing

Feed mill
Machine shops (3)

Construction

Oil field ditching
Plumber

Transportation, Communication & Other Utilities

Railway depot
Grain elevators (235,000 bu.)
Post office
Electric power & natural gas distribution
Water & sewage treatment

Trade

Bulk oil distributors (2)
Farm implement dealers (3)
Fertilizer storage
Grocery stores (2)
Confectionery
Bakery
General stores (3)
Service stations & garages (7)
Auto body shop
Radiator shop
Clothing store
Hardware stores (2)
Appliance shop
Drug store

Finance, Insurance & Real Estate

Bank
Credit union
Insurance

Service Industries; Community, Business and Personal

Schools (3)
Convent boarding school
Church
Parish hall
Pool hall
Community hall
Arena
Lawyers (2) (part-time)
Barber & beauty shops (3)
Laundry & dry cleaning
Hotels (2)
Motel
Restaurants (2)
Legion hall

Public Administration & Defence

Provincial Government Department of Public Works office & warehouse.
County of Sturgeon offices & shops
Civil defence
Fire hall
Town office
Police station

SAINT ALBERT

Mines, Quarries & Oil Wells

Geophysical exploration

Manufacturing

Bakeries (2)
Upholstering
Printing
Machine shop
Concrete vault builder

Construction

Building contractors (9)
Plumbing, heating & sheet metal contractors (4)
Electrical contractor
Plastering contractor

Transportation, Communications & Other Utilities

Railway depot
Oil field trucking
General trucking (2)
Taxi firm
Grain elevators (72,000 bu.)
Telephone exchange
Post office
Water pump house
Sewage lifts

Trade

Bulk oil dealer
Lumber yard
Building supply dealers (2)
Grocery stores (4)
Bakeries (2)
Variety store
Auto wrecker
Service stations & garages (5)
Shoe stores (2)
Hardware stores (4)
Radio & TV sales & service (4)
Furniture store
Drug stores (2)
Jewellers (2)
Liquor vendor

Finance, Insurance & Real Estate

Banks (2)
Real estate (6)
Real estate & insurance

Service Industries; Community, Business & Personal

Schools (7)
Medical-Dental clinic
Dentist
Churches (2)
Mission
Seminary
Drive-in theatre
Pool hall
Bowling alleys
Skating rink
Curling rink
Community league hall
Dine & dance club
Accounting
Business consultant
Barber & beauty shops (4)
Laundry & dry cleaners (2)
Hotel
Motel
Restaurants (2)
Welding shop
Legion hall

Public Administration & Defence

Dog pound
School administration buildings (2)
Fire hall
Town greenhouse & public works warehouse

SHERWOOD PARK

Manufacturing

Bakery

Transportation, Communication & Other Utilities

Telephone exchange
Trucking office
Post office

Trade

Grocery store
Bakery
Service stations (3)
Shoe shop
Clothing store
Hardware
TV sales & service
Drug store
Liquor vendor

Finance, Insurance & Real Estate

Bank
Insurance
Real estate offices (3)

Service Industries; Community, Business & Personal

Schools (public) (5)
Retarded children's school
Optometrist
Senior citizens' home
Churches (4)
Bowling alleys
Community buildings
Barber & beauty shop
Dry cleaner
Restaurant

Public Administration & Defence

Fire hall

SPRUCE GROVE

Manufacturing

Feed mill
Woodworker

Construction

Plumbing & heating contractor
Sheet metal contractor
Carpenter service

Transportation, Communication & Other Utilities

Railway depot
Grain elevators (196,000 bu.)
Post office
Water house

Trade

Bulk oil distributors (2)
Farm machinery dealer
Lumber yard
Grocery store
General stores (2)
Variety store
Garages & service stations (6)
Hardware
Appliance shop
TV & radio sales & service
Drug store
Pleasure boat dealer

Finance, Insurance & Real Estate

Bank
Insurance & real estate

Service Industries; Community, Business & Personal

School
Churches (4)
Curling rink
Accountant
Barber
Hotel
Restaurant
Motel
Drive-in snack bar
Library

Public Administration & Defence

Town hall
Fire hall

STONY PLAIN

Agriculture

Veterinarian
Hatchery

Manufacturing

Feed mill
Bakery
Egg pickling
Planer mill
Furniture maker
Upholsterer
Print shop
Machine shop
Ready-mix concrete(2)

Construction

Building contractors (2)
Plumbers (2)
Electrician

Transportation, Communication & Other Utilities

Railway depot
Trucking firm
Pipe line company
Grain elevators (total cap. 363,500 bu.)
Cold storage lockers
Telephone exchange
Post office
Electrical power distribution company
Natural gas distribution

Trade

Bulk petroleum distributors (3)
Farm implement dealers (4)
Lumber & building supplies (2)
Farm supplies (2)
Seed cleaning plant
Grocery stores (4)
Bakery
Confectionery
General stores (2)
Auto wrecker
Garages & service stations (5)
Auto body shop
Auto sales (3)
Dry goods store
Hardware (4)
Appliance sales & service
Furniture store
Radio & TV repairs
Drug store
Florist
Liquor vendor
Auction mart
Gift shop

Finance, Insurance & Real Estate

Treasury branch (Alberta Government)
Banks (2)
Insurance & real estate (5)

Service Industries; Community, Business & Personal

Schools (6)
Library
Hospital
Dentist
Doctor
Optometrist
Senior Citizens' home
Churches
Pool hall
Skating rink
Curling rink
Dance hall
Lawyer
Shoemaker
Barber & Beauty shops (2)
Laundry & dry cleaner
Hotel
Restaurants (7)
Welding shops (5)
Community hall

Public Administration & Defence

Court room
Provincial government's Department of Agriculture
Health unit
Town office
Fire hall
Police station
M.D. of Stony Plain offices & maintenance facilities

APPENDIX 2

BUSINESS QESTIONNAIRE

Several of these questions may not apply to your individual business: in that case, simply draw a line through them.

1. Name of Firm:

2. Address:

3. Type of Business:

4. How many people does your firm employ?______

5. How many of your employees live in Edmonton?______

6. Does your firm have branches in Edmonton?______

7. Does your firm have a head office in Edmonton?______

8 When was your firm first established in your town?______

9. Does your business use the professional services of any Edmonton firms?

Yes______ No______

Accounting firms ______

Banking firms ______

Other financial firms ______

Legal firms ______ (Check)

Insurance firms ______

Real Estate firms ______

Brokers ______

Consultants ______

Others ______________________________

10. Do you notice business competition from Edmonton?

Yes______ No______

If so, would you say that:

A. the majority of your customers go frequently to Edmonton for the same goods or services which you offer? ________

B. the majority of your customers go occasionally to Edmonton for the same goods or services? ________

C. a minority of your customers go frequently to Edmonton for the same goods or services? ________

D. a minority of your customers go occasionally to Edmonton for the same goods or services? ________

11. What percentage of your firm's goods or services is sold to Edmonton businesses or people?

Zero 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

12. Do you use a local shipping agent ________
or Edmonton shipping agent? ________
(Check one or both)

The following section need be completed only if you obtain business supplies from Edmonton wholesalers.

13. What percentage of your yearly business supplies comes from Edmonton wholesalers?

Zero 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

14. (a) What percentage of your wholesale goods is delivered to you by rail?

Zero 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

(b) What percentage is brought by truck?

Zero 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

15. What percentage of the trucked goods is carried by Edmonton truckers?

Zero 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Thank you very much for your assistance.

COMPILED QUESTIONNAIRE RETURNS

DEVON

Type of Business:	Oil Pipe Line Company	Oil & Gas Production	Oil Field Service	Oil Well Service
Number of employees	23	100	8	7
Number from Edmonton	6	9	1	0
Branches in Edmonton		x		
Head office in Edm.	x	x		
Date established	1949	1947	1958	1957
Use of Edmonton Professional Services:				
Accounting		Handled through Edmonton office	x	
Banking	x			
Other financial services				
Legal services	x		x	
Insurance				
Real Estate				
Brokers			x	
Consultants				
Others				
None				x
Edmonton Competition	N/A	N/A		
A				
B				
C				
D			x	
None				x
% output sold to Edm.	N/R	90%	0	0
Local shipping agent			x	
Edmonton shipping agent	x			
% wholesale supplies obtained from Edmonton	80%	100%	80%	0
- by rail	0	N/R	0	
- by truck	100%		80%	
% of above goods carried by Edm. truckers	80%		0	

Note: N/R: No reply to question
N/A: Question not applicable

DEVON (cont'd.)

Type of Business:	Auto Sales & Garage	Food Market	Lumber Yard	Bank
Number of employees	10	1	2	5
Number from Edmonton	2	0	0	0
Branches in Edmonton				x
Head office in Edm.				
Date established	1958	1947	1949	1950
Use of Edmonton Professional services:				
Accounting				
Banking	x			
Other financial services	x			
Legal services	x		x	x
Insurance	x		x	
Real Estate				
Brokers		x		
Consultants				
Others				
None				
Edmonton Competition				
A				
B	x			
C		x		
D			x	
None				x
% output sold Edmonton	30	0	10	0
Local shipping agent	x	x	x	x
Edmonton shipping agent				
% wholesale supplies obtained Edmonton	90	100	100	N/A
- by rail	0	0	0	
- by truck	70	100	100	
% above goods carried by Edmonton truckers	0	0	10	

FORT SASKATCHEWAN

Type of Business:	Fibre-glass Production	Chemical Manufacturing	Chemical Manufacturing	Nickel & Fertilizer Production	Grain Co.
No. employees	75	15	45	675	1
No. from Edm.	8	4	10	155	0
Branches in Edm.	x				x
H.O. Edmonton					
Date established	1955	1955	1960	1952	1930
Use of Edmonton Professional Services:					N/R
Accounting	x	x		x	
Banking	x	x	x		
Other financial services	x	x			
Legal	x	x	x	x	
Insurance	x	x			
Real Estate			x		
Brokers	x			x	
Consultants			x		
Others					
None					
Edmonton Competition:		N/A	N/A	N/A	
A	N/A				
B					
C					
D					
None					x
% output sold to Edmonton	10	10		<1	
Local shipping agent	x	x	N/R		x
Edmonton shipping agent	x	x			
% wholesale supplies obtained from Edmonton	0	< 10	N/R	5	0
- by rail		30			
- by truck		70		N/R	
% above delivered by Edm.truckers		0			

FORT SASKATCHEWAN (cont'd.)

Type of Business:	Grain Company	Printing	Bulk Oil & Fuel Sales	Clothing	Lockers & Retail Groceries
No. of employees	1	5	1	3	4
No. from Edmonton	0	3	0	0	0
Branches in Edm.	x		x		
H.O. in Edmonton	x		x		
Date established	1910	1903	1946	1957	1909
Use of Edmonton Professional Services:					
Accounting	N/R	x	x	x	x
Banking					
Other financial services					
Legal		x			x
Insurance					
Real Estate					
Brokers					
Consultants					
Others					
None					
Edmonton Competition					
A	x			x	
B		x			x
C					x
D			x		
None					
% output sold to Edmonton					10
Local shipping agent	x			x	
Edmonton shipping agent					x
% wholesale supplies obtained	(feeds)				
Edmonton	100	90	100	30	90
- by rail	50	10		70	10
- by truck	50	90	N/R	30	90
% above goods carried by Edmonton truckers	70	0		30	10

FORT SASKATCHEWAN (Cont'd.)

Type of Business:	Gen'l. Store	Insurance & Real Estate	Hardware & Furniture	Furniture & Appliances	Jewelry & Small Appliances
No. of employees	8	3	7	2	2
No. from Edmonton	0	0	0	0	0
Branches in Edm.					
H.O. in Edmonton					
Date established	1920	1935	1910	1948	1952
Use of Edmonton Professional services:					
Accounting	x		x	x	
Banking					
Other financial services			x		
Legal			x	x	x
Insurance		x	x		x
Real Estate		x			
Brokers					
Consultants					
Others					
None					
Edmonton Competition:					
A	x				
B		x			
C		x	x	x	
D					
None					x
% output sold to Edmonton		20			<10
Local shipping agent	x			x	x
Edm. shipping agent					
% wholesale supplies obtained from Edmonton	100	40	20	90	80
- by rail	0		30	10	10
- by truck	100	N/R	70	90	10
% above carried by Edm.truckers	10		20	0	0

FORT SASKATCHEWAN (Cont'd.)

Type of Business:	Farm Implement & Home Appliances	Auto Body Shop	Garage	Tires & Auto Accessories	Farm Equipm't & Auto Sales
No. of employees	3	6-8	3	3	9
No. from Edm.	0	1	0	0	0
Branches in Edm.					
H.O. in Edmonton					
Date established	1952	1960	1950	1961	1949
Use of Edmonton Professional Services:					
Accounting	x	x		x	x
Banking			x		
Other financial services			x		x
Legal			x		
Insurance			x		x
Real Estate					
Brokers					
Consultants					
Others					
None					
Edmonton Competition:					
A					
B	x				x
C	x				
D		x	x	x	
None					
% output sold to Edmonton	10	10	10	0	10
Local shipping agent		x	x	x	x
Edm. shipping agent					
% wholesale supplies obtained from Edmonton	90	90	90	100	90
- by rail	50	<10	10	<10	40
- by truck	50	<10	90	>90	60
% above carried by Edm. truckers	30	<10	100	0	0

FORT SASKATCHEWAN (Cont'd.)

Type of Business:	Groceries	Bakery	Plumbing & Heating	Farm Implements
No. of employees	5	3	2-5	2
No. from Edmonton	0	0	0	0
Branches in Edmonton				
H.O. in Edmonton				
Date established	1962	1962	1943	1961
Use of Edmonton Professional Services:				
Accounting		x	x	x
Banking				
Other financial services		x		
Legal				
Insurance		x		
Real Estate				x
Brokers				
Consultants				
Others				
None	x			
Edmonton Competition:				
A				
B				
C				
D	x	x	x	
None				x
% output sold to Edm.	0	0	0	0
Local shipping agent	x	x	x	x
Edmonton shipping agent				
% wholesale supplies obtained from Edm.	90	100	90	95
- by rail	0	10	10	10
- by truck	100	90	90	90
% above carried by Edmonton truckers	80	0	90	0

LEDUC

Type of Business:	Insurance & Real Estate	Bank	Bank	Florist	Retail Meats
No. of employees	2	6	13	2	1
No. from Edmonton	0	0	0	0	0
Branches in Edmonton		x	x		
H.O. in Edmonton					
Date established	1950	1947	1902	1955	1933
Use of Edmonton Professional Services:					
Accounting	x			x	
Banking			x		
Other financial services			x		
Legal		x			
Insurance					
Real Estate					
Brokers		x			
Consultants					
Others					
None					x
Edmonton Competition:					
A					
B					
C			x		
D	x	x		x	x
None					
% output sold to Edm.	10	<10		10	
Local shipping agent				x	x
Edmonton shipping ag't.		x			
% wholesale supplies obtained from Edm.	N/R	N/A	N/A	90	80
- by rail				90	100
- by truck					
% above carried by Edmonton truckers				90	80

LEDUC (Cont'd.)

Type of Business:	Retail Groceries	Gen'l. Store	Clothing & Shoes	Insurance & R.Estate	Auto Body Shop
No. of employees	8	4	1	2	4
No. from Edmonton	0	0	0	0	0
Branches in Edmonton				x	
H.O. in Edmonton				x	
Date established	1944	1958		1960	1954
Use of Edmonton Professional Services:					
Accounting	x			x	
Banking				x	
Other financial services				x	
Legal	x			x	
Insurance				x	x
Brokers	x			x	
Consultants	x			x	
Others					
None		x	x		
Edmonton Competition:					
A					
B			x		
C	x	x			
D					
None					x
% output sold to Edm.				30	2
Local shipping agent	x	x	x		x
Edmonton shipping ag't.					
% wholesale supplies obtained from Edm.	90	90	40	N/A	70
- by rail	10	0			0
- by truck	90	100	50		90
% above carried by Edmonton truckers	90	0	100		0

LEDUC (Cont'd.)

Type of Business:	Lumber	Appliances, Furn.Electronic Repair	Tire Shop	Garage & Auto Sales	Plumbing Heating Gasfitting
No. of employees	5	5	2	10	2
No. from Edmonton	0	0	0	0	0
Branches in Edm.	x				
H.O. in Edmonton	x				
Date established	1939	1947	?	1937	1949
Use of Edmonton Professional Services:					
Accounting	x	x	x	x	x
Banking	x				
Other financial services					
Legal					x
Insurance					
Real Estate					
Brokers					
Consultants					
Others					
None					
Edmonton Competition:					
A	x				x
B					
C				x	x
D		x	x		
None					
% output sold to Edmonton	5	5	10	10	0
Local shipping ag't.	x	x	x	x	x
Edm. shipping ag't.					
% wholesale supplies obtained from Edmonton	80	50	100	30	90
- by rail	40	30	10	10	
- by truck	60	70	90	90	100
% above carried by Edm. truckers	60	50	10	0	0

LEDUC (Cont'd.)

Type of Business:	Auto Dealer	H'ware Farm Supplies Florist	Farm Mach. Equip't. & Truck Sales	Bulk Oil Sales	Bulk Oil Sales
No. of employees	16	4	8	2	2
No. from Edmonton		0	1	0	0
Branches in Edm.					x
H.O. in Edmonton					x
Date established	1953	1945	1959	1962	
Use of Edmonton Professional Services:					
Accounting	x	x	x	x	x
Banking					
Other financial services	x		x	x	
Legal	x	x	x		
Insurance	x		x	x	
Real Estate					
Brokers					
Consultants					
Others					
None					
Edmonton Competition:					
A			x		
B					
C	x	x			
D				x	x
None					
% output sold to Edmonton	20	10	10		10
Local shipping ag't.	x		x	x	x
Edm. shipping ag't.		x			x
% wholesale supplies obtained from Edmonton	80	80	80	100	100
- by rail	20	20	60	30	80
- by truck	80	70	40	70	20
% above carried by Edmonton truckers	30	0	20	10	10

LEDUC (Cont'd.)

Type of Business:	Oil field Earth Moving	Food Processing	Plastering & Stucco	Lumber & Building Supplies
No. of employees	5	2	5	5
No. from Edmonton	0	1	2	0
Branches in Edmonton				
H.O. in Edmonton	x			
Date established	1948	1962	1957	1958
Use of Edmonton Professional Services:				
Accounting	x			x
Banking	x			
Other financial services		x		
Legal	x			
Insurance	x	x		
Real Estate				
Brokers				
Consultants				
Others				
None			x	
Edmonton Competition:				
A				
B	x			
C		x	x	
D				x
None				
% output sold to Edm.			30	20
Local shipping agent		x		x
Edmonton shipping ag't.		x		
% wholesale supplies obtained from Edm.	90	50	70	30
- by rail	0	0		30
- by truck	100	100	100	70
% above carried by Edmonton truckers	0	30	0	30

MORINVILLE

Type of Business:	Bank	Credit Union	Dry Cleaner	Insurance	Retail Pharmacy
No. of employees	9	2	3	1	2
No. from Edmonton	0	0	0	0	0
Branches in Edmonton	x	x			
H.O. in Edmonton		x			
Date established	1909	1949	1912	1915	1950
Use of Edmonton Professional Services:					
Accounting		x		x	x
Banking					
Other financial services					
Legal	x			x	
Insurance				x	
Real Estate					
Brokers					
Consultants					x
Others					
None			x		
Edmonton Competition:					
A					
B					
C				x	
D	x		x		x
None		x			
% output sold to Edm.			10		
Local shipping agent	x		x		
Edmonton shipping agent					
% wholesale supplies obtained from Edm.	N/A	N/A	100	N/A	70
- by rail			10		30
- by truck			90		70
% above carried by Edm. truckers			0		0

MORINVILLE (Cont'd.)

Type of Business:	Retail Meat & Groc.	Gen'l. Store	Garage & Auto Sales	Lumber	Feed Mill
No. of employees	5	3	7	1	3
No. from Edmonton	0	0	0	0	2
Branches in Edmonton				x	
H.O. in Edmonton				x	
Date established	1935	1941	1940	1935	1956
Use of Edmonton Professional Services:					
Accounting	x		x		x
Banking			x		
Other financial services					
Legal	x		x		x
Insurance	x		x		x
Real Estate					
Brokers					
Consultants		x			x
Others					
None				x	
Edmonton Competition:					
A			x		
B		x			x
C	x				
D				x	
None					
% output sold to Edm.	5	5	20	10	
Local shipping agent	x	x	x	x	x
Edm. shipping agent					
% wholesale supplies obtained from Edm.	100	90	80	N/R	30
- by rail	0	10	10		0
- by truck	100	90	80		100
% above carried by Edmonton truckers	100	10	0		0

MORINVILLE (Cont'd.)

Type of Business:	Auto Dealer	Auto Dealer Garage & Service Stn.	Seed Cleaning	Farm Equip. Sales & Service
No. of employees	4	5	4	3
No. from Edmonton	0	0	0	0
Branches in Edmonton				
H.O. in Edmonton				
Date established	1955	1941	1950	1920
Use of Edmonton Professional Services:				
Accounting	x	x	x	x
Banking				
Other financial services				x
Legal	x			x
Insurance	x		x	
Real Estate				
Brokers				
Consultants				
Others				
None				
Edmonton Competition:				
A	x			
B				
C				
D			x	x
None		x		
% output sold to Edm.	40	10	10	0
Local shipping ag't.	x	x	x	x
Edm.shipping agent				x
% wholesale supplies obtained from Edmonton	100	100	N/A	80
- by rail	10(Bus)	10(bus)		60
- by truck	60	90		40
% above carried by Edmonton truckers	0	0		40

SAINT ALBERT

Type of Business:	Bank	Bank	Jewelry	Drug Store	Drug Store	Retail Groc.
No. of employees	7	8	1	4	6	37
No. from Edmonton	2	3	0	1	1	13
Branches in Edm.	x	x			x	x
H.O. in Edmonton					x	x
Date established	1962	1955	1959	1956	1962	1962
Use of Edmonton Professional Services:						
Accounting			N/R	x	x	
Banking				x		x
Other financial services						
Legal	x	x		x	x	
Insurance					x	
Real Estate						
Brokers						
Consultants						
Others						
None						
Edmonton Competition:						
A						
B			x			
C	x	x		x	x	
D						x
None						
% output sold to Edmonton			20	5	10	3
Local shipping ag't.	x				x	
Edm. shipping agent				x	x	x
% wholesale supplies obtained from Edmonton	N/A	N/A	60	80	80	100
- by rail			20	20	0	0
- by truck				50	100	100
% above carried by Edm. truckers			N/R	10	80	100

SAINT ALBERT (Cont'd.)

Type of Business:	Gen'l. Store	H'ware Appliance	Lbr. & H'ware	Elect. Contr.	Variety Store	Gen'l.* Contr.	Grain Co.
No. of employees	4	1	7	2	3	50	1
No. from Edmonton	0	0	1	0	0	38	0
Branches in Edm.			x			x	x
H.O. in Edmonton			x				x
Date established	1936	1952	1955	1961	1962		1927
Use of Edmonton Professional Services:							
Accounting	x	x	x	x	x	x	
Banking				x			x
Other financial services						x	
Legal	x	x	x	x	x	x	
Insurance	x		x	x	x	x	
Real Estate			x			x	x
Brokers			x			x	
Consultants		x	x				
Others							
None							
Edmonton Competition:							
A			x				N/A
B	x	x		x		x	
C		x			x		
D							
None							
% output sold to Edmonton		40	30	10	10	95	N/R
Local shipping agent		x	x	x	x		
Edm. shipping agent		x	x	x			x
% wholesale supplies obtained from Edmonton	100	80	90	100	40	90	
- by rail	0	20	10	0	30	0	
- by truck	100	80	90	100	70	100	90
% above carried by Edmonton truckers	100	10	30	40	70	100	90

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* House builder.

SHERWOOD PARK

Type of Business:	Shoe Store	Insurance	Pharmacy & Variety Store	Service Stn.	Retail Food	Clothing
No. of employees	2	2	6	5	29	2
No. from Edmonton	0	0	0	1	14	0
Branches in Edm.					x	
H.O. in Edmonton					x	
Date established	1963	1960	1959	1958	1959	1959
Use of Edmonton Professional Services:					N/R	
Accounting			x	x		x
Banking						x
Other financial services		x				
Legal	x		x	x		x
Insurance		x	x			x
Real Estate			x			
Brokers						
Consultants						
Others						
None						
Edmonton Competition:						
A			x			
B	x					x
C				x		
D		x			x	
None						
% output sold to Edmonton	5	50	10	10	10	0
Local shipping ag't.						
Edm.shipping ag't.	x		x		x	
% wholesale supplies obtained from Edmonton	50	N/A	70	80	100	30
- by rail	0		0	0	0	0
- by truck	100		100	100	100	
% above carried by Edm.truckers	50		100	100	100	N/R

SPRUCE GROVE

Type of Business:	Accounting	Bank	Lumber & Hdwe.	Plumbing & H't'g.	Insurance
No. of employees	4	3	12	1	1
No. from Edmonton	3	1	1	1	0
Branches in Edmonton	x	x			
H.O. in Edmonton					
Date established	1958	1963	1916	1960	1963
Use of Edmonton Professional Services:					
Accounting			x		
Banking	x		x		
Other financial services	x		x		
Legal	x	x	x	x	
Insurance					
Real Estate					
Brokers		x			
Consultants					
Others					
None					x
Edmonton Competition:					
A					
B			x		
C	x	x			x
D					
None					
% output sold to Edmonton	30		30		20
Local shipping agent		x	x	x	x
Edm. shipping agent			x		
% wholesale supplies obtained from Edm.	N/A	N/A	70	100	N/A
- by rail			30	0	
- by truck			60	100	
% above carried by Edmonton truckers			70	0	

SPRUCE GROVE (Cont'd.)

Type of Business:	Garage	Auto Sales & Service	Gen'l. Store	Pleasure Boat Sales & Service	Garage
No. of employees	3	8	2	3	2
No. from Edmonton	0	2	0	0	0
Branches in Edmonton					
H.O. in Edmonton					
Date established	1936	1963	1915	1958	?
Use of Edmonton Professional Services:					
Accounting	x	x		x	
Banking	x		x	x	
Other financial services		x		x	x
Legal		x			
Insurance				x	x
Real Estate		x			
Brokers					
Consultants					x
Others					
None					
Edmonton Competition:					
A					
B	x	x		x	
C			x		
D					
None					x
% output sold to Edmonton.	40	30	10	80	10
Local shipping agent	x	x	x		
Edm. shipping agent		x		x	x
% wholesale supplies obtained Edmonton	100	60	90	90	90
- by rail	0	40	10	10	
- by truck	100	30	100	90	50
% above carried by Edmonton truckers	0	10	0	100	100

STONY PLAIN

Type of Business:	Bank	Insurance	Gen'l. Store	Dry Goods	H'ware.	H'ware.
No. of employees	9	2	6	2	2	3
No. from Edmonton	0	0	0	0	0	0
Branches in Edmonton	x					
H.O. in Edmonton						
Date established	1906	1963	1950	1945	1905	1947
Use of Edmonton Professional Services:						
Accounting		x	x		x	x
Banking			x			
Other financial services						
Legal	x	x	x	x		
Insurance		x	x			
Real Estate						
Brokers	x					
Consultants						
Others						
None						
Edmonton Competition:						
A						
B			x	x	x	x
C	x					
D		x				
None						
% output sold to Edm.	0	10		10		
Local shipping agent			x	x	x	x
Edm. shipping agent						
% wholesale supplies obtained from Edmonton	N/A	N/A	100	60	100	100
- by rail			0	40	10	0
- by truck			100	60	90	100
% above carried by Edmonton truckers			0	50	0	0

STONY PLAIN (Cont'd.)

Type of Business:	Lbr. & Ready-Mix Concrete	Serv. Stn.	Farm Mach. Auto Sale Garage & Service Stn.	Auto & Farm Equip't. Repairs	Farm Supplies	Grain Co.
No. of employees	11	2	25	1	1	1
No. from Edm.	0	0	0	0	0	0
Branches in Edm.		x				x
H.O. in Edmonton						
Date established	1908	1951	1949	1962	1958	1900
Use of Edmonton Professional Services:						N/R
Accounting	x	x	x	x		
Banking						
Other financial services						
Legal	x	x	x			
Insurance			x			
Real Estate						
Brokers						
Consultants	x					
Others						
None					x	
Edmonton Competition:						
A						
B			x			
C	x	x			x	
D				x		
None						x
% output sold to Edmonton	10	10		10		
Local shipping agent		x	x	x		
Edmonton shipping agent		x		x		x
% wholesale supplies obtained from Edmonton	80	100	90	40	100	N/A
- by rail	0	0	30		10	
- by truck	100	100	70	40	50	
% above carried by Edm.truckers	70	80	0	0	0	

STONY PLAIN (Cont'd.)

Type of Business:	Feed Serv.	Drug Store	Farm Mach'y. Sales & Serv.	Farm Mach. Sales	Bulk Petroleum Dealer	Auto Dealer and Garage
No. of employees	2	5	6	1	1	14
No. from Edmonton	1	0	1	0	0	3
Branches in Edm.					x	
H.O. in Edmonton					x	
Date established		1939	1930	1949		1956
Use of Edmonton Professional Services:						
Accounting	x	x	x	x	x	x
Banking				x		
Other financial services	x			x		x
Legal	x	x		x		x
Insurance	x		x	x		
Real Estate						
Brokers						
Consultants						
Others						
None						
Edmonton Competition:						
A						
B						
C	x	x		x	x	
D			x			x
None						
% goods sold to Edmonton						10
Local shipping agent		x	x	x	x	x
Edm. shipping agent			x		x	
% wholesale supplies obtained from Edmonton	40	70	80	80	100	90
- by rail	0	10	10	20	80	5
- by truck	100	90	90	70	20	90
% above carried by Edm. truckers	0	80	0	<10	10	0

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